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WRITINGS

OF

LEVI WOODBURY, LL. D.

POLITICAL, JUDICIAL AND LITERARY.

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IMPORTANCE OF SCIENCE IN THE ARTS.*

THE desire expressed by the Mechanic Association of Portsmouth to listen to a course of lectures on literary and scientific subjects is an illustration of the improving spirit of the age in which we live. It would ill become one whose obligations to the people of this town are so numerous as mine to withhold his contribution, however humble, from the promotion of so laudable a desire; and, allow me to assure my friends of this association that the few hours stolen from professional avocations, and dedicated to their service, have been, and are, clouded with no regrets, except for my inability to present an offering more worthy of this interesting occasion. We live in such an era of wonders, that neither the occasion nor the age can be duly estimated, without some analysis. Where, little more than two centuries ago, the untutored Indian roved through a wilderness, within sight of the blue waves that still break on the rocks where Hilton and his fellow-adventurers leaped to make the first settlement of Laconia, with the noble river rolling by us whose bosom then had reflected only the drift-wood and the birchen canoe,— it is *now* even there, in churches consecrated to the true God, and surrounded by splendid dwellings,— those rocks, bordered by cultivated fields, and that river, spanned with bridges, and fringed with the masts of commerce, and by hulls destined to protect that commerce, and our country's honor, perhaps on the most distant seas,— it is here we assemble, to urge onward still further and faster the improvements of this most exciting era in the annals of the world. Such is the occasion, and such is *one* evidence

* An address delivered before the Mechanics' Association, in Portsmouth, N. H., 1831.

of the true character of the age. Looking at home or abroad, it seems an age of excitement scarcely less universal than the elements of heaven; an age sleepless as the tides,— daring everything, despairing at nothing. The perverse metaphysics of darker times having vanished, the human mind has long gazed on the truths of nature and revelation free from the clouds and shackles of by-gone systems; and the consequence has been, that the idols of false philosophy in the groves and academies of civilized life, as well as the idols of false religion even in the barbarous isles of the remotest oceans, have alike become prostrated. A still bolder spirit has followed in that train, and penetrated to the inmost recesses of political power. The face of human society, in respect to government, has been breathed upon by an agency much purer, if not holier. Man is becoming known and treated as neither more nor less than man. His equal rights to life, liberty, and property, are more generally recognized; and it lives no longer in Utopia alone, that he may both possess and practise those equal rights in perfect safety. Increased knowledge has given, guided, and consecrated, this increased power. And, whether on the banks of the Vistula, or the Seine, or the Rhine, the Thames, or the Potomac,— wherever knowledge has become widely diffused through all ranks of society, there the decree has gone forth, that kings must cease to reign merely by Divine right, and that the energies and influence of the whole population having pervaded the whole institutions of society, there, as an inevitable effect, tyranny, in every shape abhorred, civil, religious, or political, must, ere long, crumble into dust. The mind and the soul, when thus enlightened, cannot but burn with constant aspirations for the freedom and elevation designed by the Almighty power whence they are an humble emanation; and neither the consciences, nor the labors, nor the possessions, nor the hopes, of such renovated beings, can they long consent to place at the mere mercy or caprice of others, when, by improvements in government, they have become enabled to hold all they value highly by a tenure sure and strong as human frailty can fabricate.

The majority of any community thus enlightened, and thus feeling, have, in their very nature, such a power embodied, that their mere will, or wish, to be free, is often enough to accomplish their intents — accomplish them, too, with the certainty (though, I admit, not always with the speed or ease) of the changes of the seasons, and the revolutions of the planets. This is the great secret and cause of almost every permanent reform or revolution in modern times; and not, as often happened of yore, the fascinations of a female, the horrors of a famine, or an ambitious contest between two tyrants on their thrones, or two profligate demagogues in the forum. The only possible danger, in such reforms and revolutions, arises from the want of sufficient intelligence in the mass of society to exercise wisely the sovereign power; and, consequently, the only safe bulwark against this danger consists in making power and intelligence advance with equal footsteps in suc-

cessful efforts, like those of this association and other kindred institutions of the times, to pour the tones of useful instruction into the ears of the inmates of the cabin, as well as the palace, and to despatch, as missionaries in letters and morals, the spelling-book and the Bible over every hill and valley, till all become vocal with new energies and loftier hopes, and with improvements honorable to our age and our race.

The importance of knowledge, so far as regards the professional ranks of society, is too trite a theme, and has too long been advocated, to require further illustration. But the importance of portions of general literature to all other ranks, and the importance of the mere sciences to mankind at large, and especially to improvements in the *mechanic arts*, have been considered more questionable, and may well receive some particular attention on an occasion like the present.

Into the reasoning and the results of history, on this subject, as respects general literature, it would not, in my opinion, be either necessary or useful, before the present audience, to enter at large. But, two objections, which are often adduced against the diffusion of it among *all* classes, may be considered a moment, on account of the frequency of those objections, and their evil tendency to check exertion among the great mass of society. Thus people often urge the uselessness of literature to that mass, under a reliance for everything upon mere *natural* genius. But those who dwell on this as an objection forget that general literature is not intended to supersede, but to *aid*,— to sharpen and strengthen natural genius; and, like clothes for warmth, and houses for shelter, is an addition to what man finds in a state of nature to advance his comforts.

Another objection sometimes urged against the diffusion of it among *all* is its inferiority and worthlessness, when compared with moral or religious instruction. But a similar reply seems sufficient to repel this objection,— as every new idea acquired, every faculty developed, every new feeling roused, enlarges and matures the mind for the better growth of the great truths, whether of philosophy or the Bible. Grant, then, to the objector, as we surely ought to do, that the mind, like the earth in an uncultivated state, may, at times, yield lofty timber, no less than thorns, thistles, and poisonous weeds; yet, no one can doubt, as a general principle, that cultivation increases the general usefulness of the latter, by augmenting its power to bear valuable crops, for the sustenance and benefit of the human race.

General literature, therefore, it must be admitted, is calculated to impart to the *humble*, as well as the high,— to the *poor*, no less than the rich,— useful helps to natural talents and increased facilities for the acquisition of sound morals. With a view only to a correct understanding of any appeals made about rights, obligations, and responsibilities, the importance of it was once strikingly illustrated in our own history. When the old Congress caused to be printed, and forwarded to Canada, a large edition of eloquent addresses, to enlist the people

in aid of our Revolution, the committees there soon discovered that not one in five hundred of the population could read them. Canada remained uninfluenced, unconverted; and Doctor Franklin, with his usual piquancy, wrote back that the next mission sent there had better be "composed of schoolmasters."

Let me not be misapprehended. It is not to make fellows of colleges, nor profound jurists; not to make scholars, like Johnson, nor divines, like Calvin or Servetus; but to make prosperous farmers, skilful mechanics, enterprising merchants, that "a little learning" has always proved eminently serviceable. Notwithstanding Pope's sarcasm on this subject, uttered under a monarchy, and addressed to a wit and philosopher, like Bolingbroke, yet, in our form of government, and among the mass of our population, a "little learning" is seldom a *dangerous* thing, except to the strongholds of aristocracy, superstition and vice.

It has been beautifully remarked, that learning and liberty lean on each other for support; and, even a "little learning," it has been found, goes further, on the wings of the press and in the freedom of speech, to redeem enslaved man in every quarter of the globe, than the largest armies, or the proudest navies. It does more, in the form of toleration and free inquiry, to promote the spread of Christianity, and the triumph of its glorious temper and principles over all the powers of darkness combined, whether in America, Europe, or Asia, than ever did the sword, or the bull of excommunication, the dungeon, the rack, the inquisition, or the *auto da fé*.

In the shape of the hornbook and the schoolmaster, it has prevented more crimes than the gallows or guillotine ever punished; and, though small at first in quantity and power, the little leaven soon leavens the whole lump,—it increases as it advances, like the speed of falling bodies; and man, from being a wolf to his fellow-man,—from the degradation of Swift's Yahoos, and the ferocity of tigers and hyenas,—soon gains some just impressions of the dignity of his nature, his god-like faculties, his astonishing power over the brutal and the material creation, his rights and his duties as a citizen, as well as an immortal being; and he soon aspires to spread his intelligence and arts wherever human footstep has reached, and to transmit them to his children long as human kind shall endure.

But I hasten from this branch of my subject, after referring you to a single illustration, before our own eyes, in the state of France forty years since, and *now*. What a vast difference there, between the late movements of a population enlightened and educated to some general knowledge of their rights, and those of a population at the former period, just let loose from the chains of ignorance, superstition, and tyranny. It is not that she had never, long before, reared poets, divines, philosophers, and scholars, known to fame, in every land; but, in these latter days, it is the wide diffusion of elementary literature and useful truths among her people at large, rather than the wide cultiva-

tion of difficult and profound knowledge, which has caused most of this marvellous difference; and which, over all Europe, has become a characteristic of the present age. These useful truths must still continue to ferment. Reform is the only safety-valve; and a disregard to public opinion in this respect will, in time, lead to explosions and revolutions, even on the doorsteps of the Vatican. The times have changed; appeals must now be made to *numbers*, rather than to kings, — to the public, rather than to men in official rank. The lessons of history and philosophy are becoming familiarly taught to the mechanic, as well as the prince; passing, like the great pensionary Dewitt's geometrical studies, from the memory to the judgment, they must invigorate, and steady, as well as *excite*, the general mind. The speculation which, separated from action, in the eighteenth century, among philosophers and reformers, dove into the elements of politics and religion, as well as of the sciences, and which developed and diffused numerous invaluable principles, has now found its natural *regulator*, — has reünited with *action*, — has become incorporated practically in the hearts and heads of the large mass of mankind, and is thus breaking up safely the very foundations of the great deep in human institutions, and, like another reforming deluge, must, ere long, spread over the whole habitable earth.

But what, let me next inquire, what is now, and for ages has been, equally efficient with some portion of general literature, among mankind at large, in improving the condition of our race? What, in the hands of mechanics and the laboring classes, is, and has been, often so marvellous in bettering and enlarging political rights, — the arts of social life, the implements of human labor, the instruments of commerce by land and water, — and, in fine, all the powers of intellect over the material universe around it? It is the sciences as distinguished from literature, and the increased *application* of the sciences to the common wants and uses of the world. It is the more careful collection and preservation of general principles, or leading truths, on the great subjects of human interest; it is the facts and observations on such subjects better selected and digested, and then a wider application made of them to the ordinary concerns of society. Not that many of the sciences were unknown before among the learned and the great; nor that some fortunate genius had never applied them occasionally to useful purposes, — like the Colossus at Rhodes, a splendid monument of statuary, if not of architecture, afterwards applied to the uses of a light-house, and the mathematical discoveries of Archimedes, applied and immortalized in the glorious defence of Syracuse. But it is that the principles of society have, of late, become more broadly diffused; that philosophy has, in reality, in many cases, entered into the workshop; that new sciences, like chemistry, botany, anatomy, and political economy, and new improvements by means of the old sciences, like the invention of gunpowder, types, and steam machinery, have, within the last few centuries, entirely burst upon the world; and

that the artisan, as well as the scholar, is now more earnestly engaged, and more liberally patronized, in applying the principles of the sciences to numerous new discoveries and uses in the walks of common life. It is, in fine, that the working-man has generally ceased to be a mere machine of bones and muscles,—as much a machine, in many countries and ages, as his water-wheel, his pump, or his spinning-jenny; and equally ignorant of the principles on which they operate, or are susceptible of being improved.

When we speak of the changes in society, we speak of antiquity and of modern times as they now appear; for God only knows what sciences or improvements may have been lost to us and the world, by the want, in former days, of the art of printing alone. Written records are perishable, and circumscribed in circulation, when compared with the great magician of the press. And, though the science of chemistry is restoring to us the use of some ancient manuscripts, dug from their sleep of ages beneath the ruins of Herculaneum; and though modern zeal and analytical reasoning — the last another scientific improvement, by the great philosopher of the Novum Organum — may, in our own times, discover new historical facts in the hieroglyphics, or the pyramids and obelisks, of Egypt; and though some new Champollion may, hereafter, from the plates of Humboldt on Mexican antiquities, from the wampum belts and knots of Quito, and from Hindoo archives and symbols, decipher the skeleton history of some dynasties, Asiatic and American; yet how little do we or can we know of the sciences and arts of past ages, compared with what the press would probably have embalmed and transmitted!

Since printing has been introduced into Europe, well might Bacon exclaim, "A good notion never dies;" like some seed cast into the earth, should it sleep for years, it now is never lost, and may, in time, germinate and bring forth abundantly. But, the want of printing has not only left in some obscurity the period of its own invention, and of the invention of the mariner's needle, and of gunpowder,— questions of much interest, but requiring more time for their discussion than can now be spared,— but it constantly creates doubts, calculated to humble our pride, whether *many* of the same improvements which modern times are wont to boast of have not existed in other eras, among other nations, and descend to us now only in such fables as that of Pygmalion or Prometheus, or in such feeble traces as remain in language,— tradition and physical monuments of arts and people, whose true history has long since vanished,— and whose *not untutored* minds "proud science" may have "taught to stray" beyond "the solar walk, or milky way."

But, judging of ancient realities by present appearances, which, though at times fallacious, is a rule the most correct in history, as well as in law, one of the greatest benefits to society, from an increased application of the sciences to improve the common concerns of the world, is witnessed in *education.* This does not consist merely in

teaching the elements of literature as well to a larger number, at the same expense, by means of a minuter division of labor; though that alone would be highly important, and though the same division of labor which characterizes all societies in some proportion to their civilization, and which is inseparable from much improvement in the arts, undoubtedly conduces to economy in the education of children, as well as in the manufacture of a pin. But the saving goes further than to mere dollars and cents, and to mere elementary instruction. It increases the whole amount of knowledge; it embraces the mechanic arts, and the professions, as well as primary schools. It rests on a principle in our natures, verified by all experience, that the more a man devotes himself to a single branch of business, the better will he usually understand and teach it; and that the less divided by other pursuits is the attention of a student, or an apprentice, the more rapid and thorough are his acquirements likely to become.

Hence, to a proverb, those succeed best in the business of instruction who devote themselves exclusively to it; while those always learn best, who, like Locke, learn but *one thing* at a time; and, on the same principle, it happens, in the arts, that a blacksmith teaches better the manufacture of a horse-shoe than a merchant could; and, in the professions, that a lawyer would teach better the municipal law than a physician could. Following the principle through, new books of instruction, specially adapted to other classes than the learned professions, stand out as prominent features in the improvements of the present era; and have led to the establishment of academies, lyceums, and colleges, as well as to books, periodicals, and lectures, designed not, like the old institutions and publications, to benefit *only* professional men, and conducted *only* by professional men,— but designed to benefit farmers, mechanics, and merchants, and conducted by men not exclusively clergymen, lawyers, or doctors. The change has been almost as striking as a carpenter would produce in a collection of young men intended for ship-builders, but who had been placed under the tuition of only a tailor, and furnished with no tools, except a needle, a thimble, and a goose.

By such changes in education, we get what Lord Bacon deemed a desideratum, in his times,— real "teachers of men," and "readers in arts," as well as professions. In this way, the intellectual gardener, when he wishes to raise melons, sows *melon* seed, and not *thistle* or *burdock* seed. This scientific adaptation of both old and new means of improvement to the great masses and great interests of society, under the guidance of plain common sense, gradually released from the philosophical absurdities, the superstition and the tyranny, of darker ages, has, at length, rescued most of the people of Europe from skulking into hovels on straw, amid smoke and filth, and from marching to Palestine, after a red rag, in religious crusades. The first changes began with men like you, and in places like this. Commerce and mechanical improvements in the larger towns and cities first opened

the avenues to a better education, to better systems of thinking and acting; took the first, though slow and laborious steps for the abolition of domestic slavery; made, in time, through much tribulation and resistance, the whole people more alive and intrepid as to their political rights; broke down, after repeated and bloody batterings, many of the foolish barriers of prejudice and privileges between the aristocracy of birth and the laboring classes, as well as the wealthy middling interest; and rushing forward, from conquest to conquest, in the rapid progress of the sciences and the arts, have elevated society to such a condition, that the statesmen of most sagacity seek to give a due preference to practical talents over mere theoretic acquirements,— to place *much* of the government of society in the hands of society at large, and not in the hands only of a favored few, "born booted and spurred, to ride them," and hesitate not to rely upon an *enlightened* public opinion for safety, rather than upon parchments, or stars and garters, or prisons, or gibbets. It begins to be felt there, as well as here, that government, no less than justice, effects more by holding her scales *equal* than by using her sword. The tree of knowledge, especially in this country, is no longer *forbidden* fruit to *any*. Where education is so free, universal, and practical, as here, it soon becomes felt throughout the civilized world that such a country is the magnet to all others. Fast as the others become enlightened, it is ascertained that they must become *reformed*, or, to a certain extent, deserted. Kingdoms and oceans can now be crossed with more ease than some counties could, in olden time; and, strong as are our local attachments, well-informed minds, rather than endure slavery, will either perish in repeated efforts at improvement, or, "the world all before them where to choose, and Providence their guide," will seek in far and foreign climes the free and happy institutions denied them at home.

Another specific effect upon society at large, caused, principally, by the greater use of the more severe sciences, has been more strict and accurate views upon politics, morals, and the chief pursuits of man. People at large evidently begin to think *less* of the languages, whether living or dead, and much more of mechanics, chemistry, mathematics, and philosophy. They say that "Greek metres will not teach us to invent machinery, or sail vessels." They discriminate better between the *utile* and the *dulce*,— between the essentials and the mere embellishments of life. Yet, in my opinion, it is quite too "radical" to pretend that poetry, and even Hebrew, have not their uses and excellence, in their *proper* places; but, standing *alone* in the present era, it is manifest they possess very diminished weight in the cabinet or the camp, and shed very litttle light on the great questions of government and political economy which agitate the times. The affairs of the world at large have become more dependent on a calculation of mere public interest, and are settled oftener by an algebraic process of *plus* and *minus* as to their general utility. Utility is, in fine, fast becoming the great touchstone, the beacon light, the necromancer of the

age. Mere warriors, also, as well as mere scholars, are finding their proper level. It has been boldly, if not truly, asserted, that the invention of a machine and a road, by which men and produce can be transported a mile in two minutes, is of far more importance to the world than the crossing or recrossing of the Balkan; and that it was the inventors, in England, "of its *cotton* engines, and its *steam* engines, who subsidized nations, and gained Waterloo."

It is thus that knowledge, *scientific* knowledge, doubly becomes *power*. It becomes to individuals often the true *philosopher's stone;* and is not, like that, obnoxious to any statute, as the 5th of Henry IV., rendering its use "a felony." To nations, by machinery alone, it sometimes outstrips, in benefits, all calculation, and even imagination. The steam power in England, as far back as A. D. 1828, is said to have equalled that of *two millions* of men; and, in the cotton manufacture alone, in that country, there was accomplished by machinery of *every* kind what would require the labor of *forty-two millions* of men.

Mr. Peel, in A. D. 1829, estimated the increase of machinery to be ten per cent. a year; add the three years' increase, — include the machinery in all other employments, — and extend the whole calculation from a small speck in the Atlantic Ocean to the whole civilized world, and some imperfect estimate can be formed of the power, economy and wonders, wrought by machinery, under the talisman touch of modern science. To be sure, *all* we have adverted to does not spring from mere science, or from modern improvements; but *much* of it does, and much to which we have not adverted. Hurrying by these general results, how easily can be pointed out, in the history of late ages, many remarkable illustrations of the great improvements in society by an increased union of the sciences with the arts!

The very magnetic *needle*, now so secure and useful, and without which commerce would dwindle into a mere coasting trade, — without which Columbus would never have dared to launch into a then unknown and shoreless ocean, and America might yet have remained undiscovered, — without which the world would *never* have been circumnavigated, for either trade, science, religion, or charity, — that needle, until science aided art in the improvement of its structure and use, was only a piece of steel, magnetized and stuck in a straw, and then floated in a basin of water. Gunpowder — that great innovator in the mode of modern warfare, and that strongest bulwark of civilized against the attacks of barbarous nations — has owed not only its invention, in all probability, to science, but, by the same aid in chemistry, it has since become more cheap and powerful in its use, — the flint been substituted for the awkward match, and the percussion lock is bidding fair to surpass the flint.

In printing, metal types have superseded the old wooden block; and the stereotype, by scientific ingenuity, has greatly improved on both; while, in the sister department of engraving, Perkins' steel plates have,

for some purposes, flung copper into disuse; and lithography, by a happy device of practical talent, aided by science, has made new and wide inroads on both copper and steel.

Who could have anticipated that iron, the great instrument of most mechanics, and the surest test, by its general use in any society, of its high cultivation, — that iron would not only have become improved in use so as to contain our fires for domestic warmth and cookery, — so as to be moulded into cables to moor our ships, and tanks to preserve their water, — but, by a wonderful mechanical application of science, would act as the prison for a power that moves the mightiest burthens on both land and water, — that transports them, on the former, beyond the speed of the winds, and at the same time rests its machinery on a rail of the same metal, uniting distant cities, and enriching populous countries? Who could have believed that iron would be employed for bridges and pavements, as well as roads; and, following up the scientific principle on which hollow bodies float, would ever be successfully converted into boats, drawing less water than wooden ones of the same size? Again, to show the versatility and ingenuity of man when his mind is left free to act under the impulse of interest and intelligence, we see him succeed in applying this same hard and stubborn metal to the most delicate and ornamental purposes, — from the wire waistcoat for royalty itself, to the bracelet, medallion, and cestus, on which fashion and taste have exhausted their attractions. It has been said that in England a piece of ore worth, in its raw state, only five shillings, if made into iron and steel, and from them manufactured into the most costly articles, will sell abroad for ten thousand pounds sterling; and if manufactured into *hair-springs* for watches, becomes worth *three hundred* times more than the same weight of standard gold.

In the article of light, for the common uses of life, the glories of science have been no less striking. I do not mean, by sending, as Bacon urges, "Merchants of Light," like Cook, Perouse, Parry, Park, Denon and Humboldt, expressly to treasure up and bring home the improvements in the sciences and arts from distant countries. Nor do I mean merely improvements and discoveries aiding the venturous fisherman to chase the leviathan of the deep under every sky, to collect materials for lighting up our dwellings, our workshops and manufactories. But I mean, principally, by drawing from the bowels of the earth, and through scientific agency decomposing, the foulest substances, to obtain a gas, which rivals, in the brilliancy of its light, the most beautiful meteors, and which is distributed, for common as well as splendid occasions, over our largest cities, by the simplest machinery; and, by a still higher triumph of reasoning and experiment in Sir Humphrey Davy, enabling the miner, through aid of the safety-lamp, to walk unharmed amidst the most inflammable and dangerous materials in nature.

Who does not know, likewise, by the scientific use of what gas the balloon has been formed, so as to elevate man till he pierce the clouds?

By what analysis and trials of the properties of air he has dared to penetrate into the depths of the ocean in the diving-bell? How, after patient theorizing on the same element, Pascal first attempted to measure the height of mountains by the barometer? How the microscope, by mechanic and philosophic attention, has been improved to the discovery of over seven millions of vessels in an inch square of wood, and of a little *world* of insects on every leaf, and in almost every dew-drop? How galvanism has, in the same way, been perfected, from a mere accident on a frog? Electricity investigated, till the lightning has been conducted harmlessly from the skies, and both galvanism and electricity successfully applied to the relief, if not the cure, of some of those thousand "ills which flesh is heir to"? How philosophically the circulation of the blood has been traced out, — and the kine-pox, by a skilful analogy, applied to the destruction of one of the greatest scourges of the human race? How the telescope has been improved to the opening of new heavens to mortals, and to various practical uses, in both navigation and war; and the great material in its structure — glass — scientifically applied, to give light to our dwellings, eyes to the almost blind, and *reflection to beauty?* How the chronometer and quadrant have been perfected, in aid of commerce? What progress in hydraulics, over the clumsy aqueducts of antiquity? The whole art of teaching the deaf and dumb, formed on most scientific principles? The power of gravitation, and the laws which govern the revolution of the whole planetary system, deduced, by philosophy, from the fall of an apple? The greatest export of our country reared to its present immense annual value of more than twenty millions of dollars, in less than forty years, by the invention of the cotton-gin? A progress almost equal in its manufacture, by scientific improvements in machinery, whether for card-making, spinning, bleaching or stamping? How the invention of logarithms had advanced science itself, and promoted some of the arts? What changes have been effected in *medicine*, as well as the arts, by the aid of chemistry? What others suggested by that, and mineralogy and botany, in *agriculture*, as well as in *medicine?* What improvement and machinery, in aid of society at large, in the manufacture of so humble, and yet so invaluable articles, as nails and wedge-wood ware? What marvellous combinations, for both beauty and use, has science developed in the kaleidoscope? What powers concentrated in engines, to protect our houses from the flames? What new and skilful *applications* of old inventions, — as the pump to draw poison from the human stomach, — the siphon to empty water from mines, — the screw and inclined plane, to remove buildings, and repair the largest vessels? What improvements in domestic economy, by the philosophic experiments of Rumford, — once an inhabitant of our own State? What lofty reasoning and deep research by Laplace, to reconcile the whole mysteries and anomalies of astronomy, — and all translated for American use, by an American shipmaster? And, last and mightiest, *steam*, revolutionizing the

world, in the arts and objects of common life, and perhaps destined, hereafter, in the further triumphs of science, to exercise upon naval warfare an influence not less stupendous than it has already developed in the walks of *peace?*

I care little for the contest who made the discovery or invention of some of these splendid improvements. I know it is "the fate of inventors often to be the bridges for others to march over to fame and fortune." But to us it is the *first* successful *application* of any power that brings comfort, or wealth, or greatness. It is the effort of him who carries a principle into *practice*, — who compasses heaven and earth till its *use* is ascertained, — who gives neither sleep nor slumber to his eyelids, his tongue or his pen, till the experiments are *completed*, and mankind *benefited;* — it is he that deserves our equal, if not highest gratitude. The "miners or pioneers," as the great Lord Chancellor called them, have their merit, as the "true interpreters of nature" have, "who raise the former discoveries, by experiments, into greater observation, axioms and aphorisms." But he recommends *statues* to the last, as well as the first; and Godfrey with his quadrant, Franklin with his conductor, Whitney with his cotton-gin, Fulton with his steamboat, are, whether inventors or improvers, all in their spheres deserving American eulogy and veneration.

In our brief retrospect of the improvements effected by scientific principles, however numerous or difficult these improvements may have been, we still discover much to encourage *us onward.* No *one* age is seen destined to invent and improve all things. *Each* age, and each *individual* in each age, should therefore strive to cast at least his *mite* into the common fund. As long ago as the time of Cicero, the art of printing was very near being discovered in Europe; and glass, for *some* purposes, was undoubtedly invented. Others since have been on the brink of other useful inventions, without *making* them; and how many millions have seen apples fall, and smoke-jacks revolve, without discovering gravitation, or inventing steamboats!

One person often plants the acorn, whose progeny may, in time, multiply into forests. So one may lay a part of the train, another lay another part, and thus on through centuries, till some more thinking, or more comprehensive, more intrepid, or more scientific adventurer, applies an electric spark that reaches the whole. The right and the ability to investigate and promote these subjects *here* is confined to no rank, profession, sect or party. Their advancement in this country is chiefly in the hands of people at large, and owes little to the patronage of governments. It is true that our own constitution has avowed that "the progress of civilization and the advancement of human happiness greatly depend on the efforts of learned and ingenious persons in the various arts and sciences;" and a patent was secured to the author of all improvements. But still the effective patronage, the pecuniary reward, the glory, comes from the

great mass of society, through the knowledge and use of them by all.

Out of about seven thousand patents taken from the General Government, the citizens of this State have received little more than one hundred; but still they *should*, and in some respects *do*, feel, know and act, as if it was only by superior perseverance, enterprise and education, among our population at large, — only by rearing a race of high-minded men, "who know their rights, and, knowing, dare maintain" them,— who hasten to push their talents and labors into all the pursuits of life, among all classes, and in all latitudes, — that we can hope effectually to overcome, at home, the inclemencies of our climate, or the roughness of our soil, and to send abroad, over the mountain wave, and into more fertile regions, from this American Switzerland, a host of sons and daughters who shall be a name and a praise to the land of their birth.

Instead of standing mute, in admiration of former ages, ours is the *duty* also, and the *ability*, as we live in these latter days of the world, to advance everything *beyond* our predecessors. *We*, in fact, are the *ancients*, and those gone before us the children, of this world. *We* live in its old age; *they* in its youth. *We* have all to profit by which is past, and which has escaped the wreck of revolutions and time; while *they* had only their own experience. — (1 Sir William Temple, 14.)

The stirring spirit abroad at this epoch, in both Europe and America, and especially in improvements in the arts, is likewise calculated to appeal strongly to the ambition and the pride of our *artisans*. A writer in the Edinburgh Review says: — "Were we required to characterize this age of ours by any single epithet, we should be tempted to call it, not an heroical, devotional, philosophical, or moral age, but, above all others, the *mechanical* age. It is the age of machinery, in every outward and inward sense of the word; the age which, with its whole undivided might, forwards, teaches and practises, the great art of adapting means to ends. On every hand, the living artisan is driven from his workshop, to make room for a speedier, an inanimate one. The shuttle drops from the fingers of the weaver, and falls into iron fingers, that fly it faster. The sailor furls his sail and lays down his oar, and bids a strong, unwearied servant, on vapor wings, bear him through the waters. Men have crossed oceans by steam; the Birmingham fire-king has visited the fabulous East; and the Genius of the Cape, were there any Camoens now to sing it, has again been alarmed, and with far stranger thunder than Gama's. There is no end to machinery. Even the horse is stripped of his harness, and finds a fleet fire-horse yoked in his stead. Nay, we have an artist that hatches chickens by steam, — the very brood-hen is to be superseded! For all earthly and for some unearthly purposes, we have machines for mechanical furtherances, — for mincing our cabbages, for

casting us into magnetic sleep. We remove mountains, and make seas our highway."

But the end is not yet come. There are no Pillars of Hercules in *science*. In a *free* government, well may Liberty address her in the language of Thomson:

> "Science, my close associate, still attends,
> Where'er I go. Sometimes in single guise
> She walks the *furrow*, with the consul-swain,
> Whispering unlettered wisdom to the heart,
> Direct; or sometimes, in the pompous robe
> Of *fancy* drest, she charms Athenian wits,
> And a whole sapient city round her burns."

One other view of the advantages from mere scientific inquiries, and I have done. In *nature* around us, as well as in art, science is frequently opening to us a paradise of new and instructive principles, that should, by their wisdom, and beauty, and design, be always conducting our thoughts from *nature* up to nature's God. Among a myriad of formations, she teaches us that no new matter is ever necessary to be created; as not a drop of water or particle of dust is ever found, in fact, to be annihilated, but merely an *alteration* effected, and that upon laws as established and certain as those which hold the earth in its orbit. Hence, though the living body often changes all its particles, from the moisture embodied and exhaled in a lady's tear, to the torrent of blood poured out from a wounded artery, — though the vilest rags are converted into paper, to receive beautiful sentiments, and the most captivating images,— though the hardest sand enters into the composition of some species of elegant wood, and even *iron* imparts to the rose its ruby hue,—yet, like Cæsar's dust, traced by Shakspeare, nothing, in the eye of science, is entirely lost, but "all forms that perish other forms supply."

Again, the researches of science disclose a wonderful harmony, an almost *mysterious* tie, between parts of creation apparently the most disconnected, and which tend to impress us with the same awe and reverence for him who made and sustains the whole. Thus, the sparks from the fur of the cat, and the lightning which splits the knotted oak, are found, by philosophy, to be the same. She demonstrates, likewise, that plants feed on the very air which destroys animals; that the same gas forms a poisonous acid, and mingles with and imparts to both the atmosphere and water their vitality; that the same element which buoys up the balloon transported the pollen, and often the seeds of plants, to distant regions, — the same not only aids the fly to crawl on the roof above our heads, helps fish to swim, and enables us to pump water from our wells, but wafts our commerce to all regions, and often, when prostrating parts of our forests, drives pestilence from our borders; that the coal and the diamond are chiefly composed of the same material, — and that on *one* single principle the acorn falls,

and the planets roll, — "The chain holds on, and where it ends, *unknown.*"

The mechanic, *above all others*, with a mind stored from observation and science, cannot but soon incline, and accordingly elevate his views, to the great *Architect* of all things. From the nature of his pursuits, he will soon discover, meditate on, and admire, the astonishing application of the most perfect science, not to one or two subjects, but to *every work* of the visible creation; to the structure, sex and pathology, of the modest violet, as well as of the lofty pine, "suited for the mast of some high admiral;" to the crystallization as strictly geometrical, and ingredients as uniform, in the topaz or sapphire that sparkle on the breast of beauty, as in the marble column; to the mechanic powers and philosophy developed in the eye of the smallest insect, as fully as in the huge frame of the half-reasoning elephant; to the fixed laws, or the mathematical uniformity, evinced in the form and growth of a leaf or a hair, no less than in the occurrence of an eclipse, or in the periodical movement of the remotest planet that has been discovered in the regions of infinite space.

In fine, by this way of thinking and acting, labor itself may become a pleasure, and our faculties, while devoted to the usefulness of those around us, may, in our different spheres, still *all* tend to the best interests of the human race, and to the true study, worship and praise, of the Omniscient Maker of both mind and matter; of all principles and sciences; of all we see, and all we know, and all we are, and all we humbly may hope to be, whether in time or eternity.

ON THE PROMOTION AND USES OF SCIENCE.*

ONE of the objects in the formation of the NATIONAL INSTITUTE was to promote the public interest through the aid of science.

As we are all anxious to accomplish that object, it may not be unprofitable to devote some attention to the consideration of what is most likely to hasten it, in a position like ours, and with encouragement, or means, such as exist in this country.

There are different employments of the mind connected with improvements by science, which demand notice, and which, though highly essential to success, are very unlike, and not equally suited to the circumstances in which most of us are placed. One is the collection of new facts; another is the discovery of the organic law which produces or governs those facts. Without the former, the highest powers of genius would lack proper materials for new deductions and systems; while, without the latter, the industry of mankind would be lavished in gathering materials, rather than in using them. We should have timber and brick, granite and marble, but not a temple or pyramid, or even cottage, rising in fair architectural proportions. In short, the condition of science, where only facts are amassed, is the chaos of matter which preceded the creation,—"without form and void,"—and requires some spirit to "move on the face of the waters," to produce life and beauty, as well as usefulness. On the contrary, the talent to analyze or compare, combine and construct, without the possession of suitable facts, runs into the wildest vagaries. Errors are adopted, and theories the most imperfect countenanced, from the want of that full collection of materials and experiments which are indispensable to reach sound conclusions, and on which alone any solid scientific structure can be raised. A third exercise of mental power connected with science is a species of creative talent, akin in grandeur to that which formed matter itself; it is to shape all such facts and laws to new purposes and improvements. It resembles the superiority of the architect over his mute materials, or even the maker of his brick, or the hewer of his wood, or the striking dominion of the general in battle over his rude masses. But, unite these qualities or pursuits, and everything is attained which is practicable. Their combined efforts — as in architecture, for example — produce the useful dwellings, as well as classical temples, of the age of Pericles, and all the beautiful forms of Ionic and Corinthian elegance.

It would require no high degree of skill to decide which of these

* An address delivered before the National Institute, in the House of Representatives, Washington, January 15, 1845.

employments of the mind, in respect to science, is most elevated and desirable, where the condition of society is such as to yield no peculiar preponderance to one over the other. For, independent of that, we could not hesitate, when directing our efforts to one branch alone, to concentrate them on the arrangement of facts, and the deduction of elementary laws from ample materials already gathered, or even in laboring to apply them to new designs; though, by offering this opinion, I would not be understood as thinking that the mere collection of facts is not best suited to some conditions of society,— and that he who furnishes them for scientific labor, however acting a humbler part than he who learns their qualities, or he who moulds and directs them to new discoveries and profitable ends, is not a necessary co-laborer in the field of knowledge, and does not perform a valuable service in the great search after truth.

How we and those around us are situated in relation to these employments, should be ascertained with care, in order to apply our energies in the manner most promising and appropriate. Rightly to understand and rightly to "define our position" as to this subject may, also, as in the case, at times, with politicians, help the institute, and even our common country, to escape some unmerited censure, and will tend to procure more readily any assistance towards further progress which our condition and exertions may seem to deserve.

It is proper, then, to remember, in the outset, that the Anglo-American mind has never been in the uncultivated condition in which our ancestors found the soil of this country. The intellect, morals, manners, and general acquirements, were, at the very first, those of the Old World as it stood two hundred years ago, rather than those discovered among the new races here. Many, considering only our youth as a nation, have overlooked this, and forgotten the old age that belongs to our people,— not coming here as barbarians, living on acorns and clad in skins, or being, as to intelligence and arts, in the hunter, or even pastoral state,— but crossing the Atlantic as adults in mind and civilization, with advanced acquirements, derived from the treasures of near forty centuries of science, as well as of arts and letters, all open to their gaze, and daily mastered by industry and talent. As a people, we have lived as long as those of England, France, Germany, and Spain, whence we came. We possessed, from the start, all the improvements which they possessed at the time we separated from them; and it was only when their ancestors were carried in chains to Rome, as painted savages, after making Cæsar and his legions at times fight for life rather than victory, that ours were savages,— but no longer nor later. What, then, should be the difference between us and those parent nations, as to progress in scientific affairs?

It is, I admit, all which flows from the facts that we have been, for two centuries since, placed in a less cultivated country, and been tempted to engage more at first in the chase and fisheries, and a ruder agriculture, and that most of us have been left more dependent on

individual means and energies; and, for the last three generations, have lived under a form of government more equal as to rights and property. When looking, therefore, to scientific researches, remote in their advantages, or chiefly speculative in their tendency, it would be disingenuous for us to deny that some obstacles have arisen here to rapid advances in such researches, from the existence of the different circumstances before mentioned: because every profession and employment, as well as office, being here open to all, talent finds temptations and rewards more numerous than elsewhere, beside those which strew with attractions the paths of science; and the division of property is so equal among us, that a larger proportion must pursue what is immediately profitable and will yield a livelihood, — and hence, if devoted to science, must mould it more frequently to objects of speedy profit, rather than glory, or benefits not soon to be realized.

But these differences, when duly considered, will be found not to have stripped our population at large of their former acquirements, nor of the power to transmit them, with many valuable additions, to their grateful children; and, though depriving a few, in some scientific pursuits, of so lavish a patronage as elsewhere, these differences have led to a more general education and elevation of the masses, which have enabled them to appreciate better all the fruits of science; and, instead of rendering those fruits undesired, unnecessary, or unrewarded, have, in some particulars, caused a much wider and more encouraging demand for them, both in public and private enterprises. Thus, in our rapid career, the call for everything conducive to practical utility has proved so strong, that science has been applied to enrich and strengthen us in ways far more numerous than many imagine, or than ever existed before; and we have not only seized on the improvements of others for this purpose, the world over, but have resorted to countless inventions of our own, and to some original thinking and laborious researches in cases where others appeared deficient, and the demand here was exciting.

Such, then, is our position; and, in this view of it, that which seems to be most needed for promoting the public interest further, through the aid of science, is to bring our means into coöperation more with our genius; and to have our materials and talents more wedded together in the higher, no less than other, walks of science; and more dedicated, heart and hand, to enlarging its boundaries, as well as making new improvements by its agency, in agriculture, and the arts, commerce, manufactures, and all which pertains to human progress.

Even beyond this it would be useful, if we had a few more individuals, situated like Tycho Brahe, to advance science itself, with dispositions to spend years in mere observations and experiments connected with it; and, when necessary, be content to leave the records of them for future Keplers to digest into beautiful laws and systems. And it would be still more useful, when, as in his case, such dispositions are united with means to expend thousands in erecting laboratories and

observatories, as well as forming gardens of plants and new instruments to advance natural history and astronomy. Improve and extend science itself in ways like these, and you improve and extend the benefits, no less than the pleasures, that may be derived from the use of it. And if communities and governments were more alive to this great truth, and if a conviction of its importance for practical good to the many, as well as for mere theoretical discoveries, or mere intellectual enjoyment to a few, would be produced as strongly in the many as it is in a few, most of the difficulties that exist as to the further encouragement of science, under our political and social systems, would be speedily surmounted. For then the thought, mind, enterprise,— of which we have an ample supply in some, and the means or materials of which we have enough in others,— would all be brought to coöperate more efficiently, and on a scale more wide and regular; and then the philosopher and patriot, the scholar and philanthropist, would all find this one mode — and a glorious as well as sure mode — to crowd forward their several aims in the cause of science, liberty, and humanity. Like the poet, we should then feel more strongly that science was the "mighty changer of the world;" and hail him as not only "the soul of art," that tills the earth, spans the floods, and works a myriad of other practical benefits around us, but say —

> "Fire, air, earth, water, are at thy command;
> O'er all, like magic, doth thy touch prevail.
> And at thy beck rise towers and temples grand;
> And pyramids, that countless ages stand."

But how is the conviction I have spoken of as so desirable to be produced? How sink it deeply into the public mind? In my opinion, nothing is more likely to accomplish this than the consideration of several things which have already been done here in the use of science, and which have proved very successful to better our condition. Let me caution you that I do not refer to a retrospect of the improvements which have been made here in the sciences themselves (to a critical knowledge of which I make no pretension), but rather to some of the most striking cases where their assistance has been widely invoked among us, and proved highly useful. Under many disadvantages, private enterprise, as well as public, have much oftener than most believe resorted to scientific aids for ameliorating our condition. Not so far or so fast, I grant, as some have desired, yet always as fully as public opinion became convinced it was advantageous, and as other imperative duties, growing out of our national condition, would warrant. If you ask for particular evidences of this, I could point them out on almost every river, every hill, as well as prairie and valley, in our extensive Union. Look, first, at one or two illustrations in private life. Suppose a traveller, in some remote gorge of the upper Nile, to come suddenly on a structure, several stories in height, and over four hundred feet long, as was my lot, the last summer, near one of

the numerous waterfalls of the Merrimac, in my native State, and where, fifteen years ago, stood a forest, skirting a mere sand-bank. To the boundless power of what Sesostris, or Pharaoh, would the vast pile be attributed? Yet, in my case, the whole was the voluntary production of free men, during a few months only; and that, put in motion by the enterprise of only a small number of capitalists in the neighboring country and cities. But let the traveller pause longer, and, lifting his eyes, see beyond, below, and around, many other structures, nearly equal in magnitude, all instinct with life, crowded with every age and sex,— thousands of busy spindles and looms, swelling the Babel hum, and all animated by machinery, on which genius and science combined have worked every wonder, except imparting the faculty of varied speech! Let him see them all devoted to shape into new forms an article of our own growth, which (fifty years ago, hardly known to be produced among us) has, by the aid of scientific ingenuity through the cotton-gin, been made to furnish more than two-thirds of the raw cotton for the whole human race; and, moving onward, let him discover similar edifices rising, as if by magic, on hundreds of other waterfalls, — and, where these do not exist, starting up in the very heart of cities, and running their almost eternal round by the invisible power of steam, through like scientific skill. And then let him reflect that all this is also private in origin and ownership, rather than the fruits of public oppression, wrung from the sweat and tears of down-trodden millions, or the plunder accumulated by conquests, such as those of Carthage and India, or the Incas and Montezumas of the New World; and what astonishment must then overwhelm him in all his preconceived conceptions of the feebleness of science and of individual effort! And what marvels does it prefigure to us all, yet to spring from the further application of scientific skill in human affairs, under the impulses of superior education, still going on among the whole community, and of more free and equal influences so liberally showered upon them by government! The idea is flung out, I think, by the younger D'Israeli, that Manchester, in England, is as striking to illustrate the triumphs of science as London is those of commerce, or Paris those of fashion, or Athens those of ancient art, or Rome, of conquest, or Jerusalem those of religion. But look a little further, at another case. Suppose some Anacharsis could be recalled from the tomb, and witness not only all these establishments among us, but the transportation of their fabrics, by scientific railroads and steamers, over this vast continent, which his travels and probably his dreams never reached, and thence into the heart of Europe, or on the other side of the globe, up the splendid rivers even of the Celestial Empire, — would he not imagine that some power greater than Egyptian, Macedonian, or Roman, had arisen, and devoted long all its usurped energies to the accomplishment of such wonderful undertakings? Yet we could tell him that the whole is but another fruit of modern progress in science and its various uses, under the direction, in most cases, of

only individual enterprise,—a single mechanic, here and there, like Whitney or Fulton, giving birth to an invention, and then sustained in putting it into operation by the voluntary investments of some merchant or physician, or of some independent farmer or lawyer. This is true not only of the vast machinery in manufactures in this country, but of many of those canals and railroads so subsidiary to them, and equally as astonishing as works of science and private enterprise, whether the Green Mountains are to be tunnelled, or their ridges cloven down by deep cuts, or merchandise or passengers are to be whirled over half a continent in a few days. Private enterprise, in many, though not in all, has furnished both the science and the capital. It feeds the iron monster that draws all, and projected the mighty plans for their pathway: first, by the bold projector; then, by the intelligent engineer; next, by the wary yet far-seeing economist, whether saving his few thousand dollars, to adventure in such enterprises, from fattening flocks, raising wheat and corn, or sending "notions" in commerce to the antipodes, or healing the sick, or defending the oppressed. The government of these great establishments, also, is almost as scientific, and quite as regular, as that of a locomotive itself; and requires no public principalities and powers to manage it, but is moved by a mechanism of individuals, simple and unostentatious as Puritanism. Thus, a small board of directors, in some ten-foot counting-room or obscure parlor, with one or two young men, with quills behind their ears and ledgers on their desks, constitute the whole paraphernalia of their management. These despatch to every quarter of the globe the orders which control everything: it may be, to import cotton from New Orleans, or wool from New Holland, or dyes from Turkey, or iron from Russia; or to send bales of Stark sheetings to Liverpool, and Lowell drillings to Canton; or to bring new scientific colors and scientific machines from the laboratories or workshops of Europe,—still, the same private electric spark giving motion to the whole, and, through the mysteries of double-entry, keeping the results of the whole with the accuracy of mathematics, and the rigorous analysis of the highest logic.

Nor is it unusual here for a single master-mind, in commercial life, to put into action machinery still more distant and difficult, and, if not strictly scientific, yet calling to its aid all the fruits of science calculated to be useful, as was felt on our north-west coast through Astor before the late war, and as is felt often since, in the markets of the world, by voyages first figured out on the back of a letter or one's thumb-nail; sending specie, if need be, to Bombay or China, collected by our merchant-kings from all quarters of the globe; or cotton, or lead, or ginseng; or, when the great laws of trade require a different course, a draft of three lines, as much respected among the Hong traders, or in Amsterdam and London, as in Wall-street in New York. Another striking case of the use of science here, by private enterprise, has been in the forests of Illinois, Missouri, and Wisconsin, crowded with geologists and workmen in search of lead, and augment-

ing it so, in a few years, as to supply not only our own immense wants, but those, in part, of Europe and Asia. A few humble diggers, guided by a zealot here and there in mineralogy, have put in motion the capital of the merchant and the enterprise of the navigator, till the whole world witnesses their effects as applied scientifically to this wonderful treasure of the giant west. A similar illustration exists in the case of our mineral coal. Let travellers look at the mountains of it piled up on the levee at New Orleans, or on the banks of tributary rivers thousands of miles in the interior. Let them look at the same on the Schuylkill and Delaware, on the Potomac and Hudson, and all the busy waterfalls, where thousands of manufactories start up, not only to turn the spindle for the finer fabrics of cotton and wool, but draw out the solid iron into threads, or wire almost as minute, or mould it into anchors and cables so massive. Let them look at the coal in all our Atlantic cities, heaped up even on the busy wharves of Bangor, though thence exporting so much wood and lumber, and reflect that, whenever the spurs of the Alleghanies have been undermined for these dark treasures, or the bowels of the earth penetrated hundreds of feet, as on James river, to obtain the means for light and heat over every navigable portion of the Union, it has been aided by the various applications of science, and the enterprise started by some mechanic, or planter, or lawyer, rather than by powerful governments.

The great increase in the manufacture of iron among us, now computed to exceed in quantity either Russia or Sweden, and extending from the coarsest ore in the mine to the most delicate surgical instrument, furnishes, in many of its operations, still another illustration of our rapid progress in the use of science, under the strong impulses of private interest.

So have we beheld agriculture, waking from her sleep of ages, by means of chemistry and geology, applied to enrich one worn-out field by mere gravel, and another by mere clay; one fertilized by lime, which was before waste; one drained into warmth from the coldest swamp; another irrigated to abundance, which was before an arid sand-bank, and crops and renovations witnessed, by new composts and chemical compounds, never before dreamed of. The springs in motion, to make so many waste places blossom like the rose, have been started by science, and her private votaries, rather than governments,— by Danas and Jacksons here, as well as Davys and Liebigs abroad,— and are revolutionizing the whole system for the better, under the practical experiments of such real benefactors to agriculture as the Buels, Phinneys, and Ruffens, among the people at large.

Advert a moment to another consideration connected with the increased use of science here, in coöperation with some of the fine arts. Who can compute the amount of labor and talent engaged in this country, no less than abroad, in devising and executing ornamental figures for cotton and woollen fabrics, as well as silks? for the prevention of counterfeits in bank-notes and bills of exchange, and for illus-

trating periodicals, books of fancy, natural history, travels, and exhibiting every variety of engineering, surveying, and geographical explanations? When we remember that it is science and some of the fine arts which are thus humbly employed, and for the use of the poorest and middling interests, no less than for the highest in intellect, and the most advanced seminaries of learning, and the wisest public bodies, the change in their functions and their practical usefulness becomes wonderfully developed under the impulsive genius of institutions like ours. From ornamenting cathedrals and churches and galleries and palaces, and from diffusing the splendid results of such voyages as those of the Astrolabe and Coquille, or the Vincennes, the powers of drawing and engraving have been reinforced by those of the daguerreotype, as well as lithography, and have thus been applied to spread more cheaply useful knowledge into every rank and pursuit of life. The broad line of discrimination here usually is, that science, to be much patronized, must devise new instruments of profit or pleasure to numbers; and whatever of its labors has turned out to be either useful or agreeable to the many here has always been amply rewarded, crowning many inventors with princely fortunes, and drawing crowds to witness its wonders in the solar microscope, or in astronomy as explained by Lardner, or in the historical mysteries of the coasts, rivers, lakes, and mountains of our continent, as deciphered by such geologists as Cleaveland, Hitchcock, and Lyell. So, besides the daguerreotype, with all its increasing use and marvels, it will be seen that the panorama, also, and its popular fascination, the kaleidoscope, with its beauties to the eye and its benefits in the arts, the illusions of the fantascope, those brilliant philosophical and chemical experiments that amuse millions, and the fire-works of all kinds, which so often make the holidays of half the world so inviting, all rest exclusively on the aid of science for their powerful attractions.

Some other things, chiefly of a practical character, and chiefly assisted by private enterprise, may usefully be adverted to, and a portion of all of them illustrated in more detail, where our national progress since the Revolution has, in many respects, been much advanced by the aid of science.

Our new forms of government could not, at once, develop their full influences, in these respects, on the community at large. Old notions and habits, old theories, prejudices and laws, could not be changed but gradually, if wisely. Arbitrary power had been uprooted, rather than manners, or the arts, and the literature and fashions of society; and where chaff was to be blown away from the wheat, both care and time became necessary to avoid injury. But, as was most natural, we began with the science of government,—improving it, by means of written constitutions, as well as a more equal representative system, and placing legislation more immediately under the control of the people, and making it more practical and wide in its objects. The endeavor has been made in these ways, and with some success, to work out that

difficult problem of preserving in order and prosperity popular privileges, which, in many other places, would tend to anarchy; such as the free suffrage of the many, their eligibility to office, their equal rights to hold property and pursue all kinds of business, and their participation in all the benefits of legislation, as well as in the administration itself of the laws that are made. Indeed, on no topic has more science and talent been employed than on the political machinery of our General and State Governments, and in the making and execution of the laws under them; and in none have these qualities been exercised with greater vigilance and devotion, to secure, as well as advance, the interests of the whole. So, the tendency in our systems of education, since the Revolution, has been more and more towards instruction in the sciences, and their application to the arts, expecting thus to forward with greater efficiency the practical business of life, and benefit numbers, rather than a few. Academies, institutes and colleges, have done much more, of late, that is new, for philosophical instruments and chemical lectures, and experiments and collections in mineralogy and natural history, than for belles lettres; and it is vain to attempt to shut our eyes on the impulses which the public mind has acquired, to mould education more for the practical benefits of the many. Indeed, to promote such benefits in this and other ways, have been some of the greatest efforts and rewards of American genius, even from an early day. Thus Franklin, though distinguished for *drawing lightning from the clouds*, no less than helping to *pluck the sceptre* from tyrants,— *Eripuit cœlo fulmen, sceptrumque tyrannis*, — became much more widely known, if not enriched, by applying his sublime discovery to protect the dwellings of the many from electric fire, and using philosophy for the immediate benefit of millions, through his humble improvements in stoves. The genius of few has been more successful in turning science to practical purposes, and especially economy in the use of heat, than that of another American, in Count Rumford. And though it was most fully developed in Europe, so as to gain there both wealth and rank, yet the impulses were given to it here before his emigration. So we all know that Bowditch, the translator of Laplace on the mechanism of the heavens, found something more of profit, perhaps, if not fame, in compiling his useful navigator for the multitude who plough the ocean, and in computing annuities for the purposes of practical life. The same might be said of the labors of several of our mathematicians for popular use, as compared with their productions on topics more speculative. And all elementary books, domestic and foreign, well calculated to yield useful instruction to many, have usually been encouraged here in the most ample manner, and in instances too numerous for recital; as have been any scientific improvements in teaching itself, by such men as Lancaster or Pestalozzi, or by others, enabling us, in some degree, to impart speech to the dumb, and sight to the blind, and hearing to the deaf.

We have, likewise, made some progress in the use of architectural science. But it has taken chiefly a like practical direction, and the most rapid advances have been either in private dwellings for daily occupation, or, when the highest acquirements and largest expense are employed, it is for a building for business, rather than show. It is for a custom-house, court-house, state-house, hospital, and not a Brighton palace or Versailles — a seraglio or pyramids. Or, it is to build colleges to educate the many, to erect churches and cathedrals for crowds, to have capacious town-houses and city-halls for the accommodation of the people at large; or, in military and naval architecture, to form massive forts, breakwaters, dry docks, and vast ships of the line, for general defence, rather than, as in despotisms, to wring out the tears and toil of millions, to build palaces of ice, or construct barges of pleasure, adorned, like Cleopatra's, with silk and gold, to gratify the love of pageantry in royalty alone.

The higher branches of science have been turned to another most useful, and, at the same time, striking account, among us in practical life, in hydraulics. Not only have numerous detached dwellings, but almost every large village and city, been indebted to this, in an ample supply of water, for one of the greatest means of comfort, health and beauty. Both distance and height have been overcome with ease, however uneven the surface, by applying scientific principles, through pipes of wood, or lead, or iron, or burnt clay, without any resort to the awkward and costly stone aqueducts of antiquity, requiring intervening mountains to be cut down, and deep valleys filled, in order to form one regular inclined plane for the whole distance. In a like manner, science has here overcome another obstacle, formerly insuperable in aqueducts, when the head of the supply was too low; as now, by the power of wind or steam, or water itself, a quantity of water can be elevated into reservoirs high enough and large enough to spread a sufficiency, both for ornament and use, over our most populous cities. The Fairmount works, at Philadelphia, present one of the most beautiful specimens of this victory over natural difficulties; applying the principle on a most magnificent scale, which had, by science, been otherways used before, no less than since, to irrigate the banks of rivers, or raise water from the ocean into numerous vats, to be evaporated into salt. But surpassing, in some respects, perhaps, all the monuments, as to hydraulics, of modern times, or even antiquity, whether in Egypt or Carthage, Greece or Italy, is the Croton aqueduct of the empire city of New York; whether we look to its length, capacity and expense, or consider that it is the enterprise of a single city, instead of a State or kingdom, and that it has been completed, not by plunder or the forced toil of enslaved millions, but by the free will of free men, and by their own voluntary contributions and obligations. The extensive use of science in canaling in this country is another illustration of our great progress in the encouragement of it for practical objects. It is not merely the introduction of locks,

instead of cranes and inclined planes, which has changed the whole aspect of canals in modern times, from what it was in antiquity, or is now in China, though so long celebrated for its artificial aids to internal commerce. But, beside the great number here, what, in length, and grandeur, and difficulty, are the eighty miles of Egyptian canal across the Isthmus of Suez, or a few furlongs more of it, a century or two ago, through the swamps of Holland, compared with those uniting the Ohio with our inland seas, and the three or four hundred miles that wed the waters of the Atlantic with those of Lake Erie? And how strikingly does the last enterprise develop again the combined power of a few free people here, over the might of monarchies or despotisms elsewhere, even in matters requiring scientific exertion, when we behold this emanating from only one State out of twenty-six in our youthful confederacy, and being the free-will undertaking of its masses!

The improvements in railroads among us are another evidence of all these positions, and are full of hope for the cause of science, when usefully directed. With what success has it enabled these roads to extend from the inclined plane of collieries and mines, not only over the level paths of the ancient Roman highways in England, but here to cut through mountains, span rivers on viaducts, cross arms of the sea on piles, and transport passengers and freight, in almost every direction, with speed exceeding the winds! Indeed, we have so advanced in this as already to be able to furnish both engineers and locomotives for some portions of Europe.

But time forbids me to enlarge on it, or on the valuable contributions of science here, by means of bridges,— these last yearly taking place, more and more, of the dangerous ford and tardy ferry, and yearly improving in both cheapness and durability. Or the efficient aid of science in lighting our cities by gas, and imparting to our coasts greater commercial safety; giving us,— instead of the rude fagots, kindled nightly on some promontory, or of some costly colossus, as at Rhodes, to hold burning coals in his hand, to guide the mariner,— all the improvements in glass to contain oil, or furnish shelter to the flame, or reflect it; and all the improvements in color and revolvings, no less than in oils themselves, so as to save many more lives, and millions of wealth, at an expense comparatively trifling. Or its vital assistance, more and more yearly, in the greatest practical blessing of all,— the security of health; and this, not merely by new applications of chemistry, botany and surgery, the use of inoculation and the kine-pox, but the more scientific attention to hospitals, cemeteries, and measures for cleansing cities, — their ventilation and water, clothing and diet, and especially the improving abstinence from fermented liquors, with numerous other matters, so common now as seldom to be traced to their true scientific origin, though generally the offspring of that beneficent parent, and aiding to prolong the

chances of life in this country near one-fourth within a few generations.

I must pass by, also, the details as to most of our progress in mechanical science, and more especially in practical machinery,— computed by some to have been greater in the last fifty than the previous hundred years, or, in the last hundred than the previous thousand. Indeed, after all the advances, here and elsewhere, in spinning and weaving, further improvements are almost yearly made in them, and pushed even into knitting and sewing by machinery, as well as threshing and winnowing grain, raking hay, hulling rice, pin-making, card-making, the humble manufacture of boots and shoes, and common weighing, by means of the balance or bar of Dearborn, and the horizontal scales of Fairbanks. Were it necessary to adduce more illustrations of the applications here of scientific principles, I might roam through half the contents of our national Patent Office, and much which has never entered its capacious bosom,— from the screw used to remove buildings, to the siphon employed to empty mines,— from the vacuum in boxes to raise ships, to that in pipes to carry cars by AIR with more than steam-like velocity,— from the diving-bell to bring up ocean treasures, to its use in making sea walls and wharves under water,— from the pump to empty poison from the human stomach, to the chemical extraction of oil from lard, as well as cotton-seed, and sugar from Indian corn; and the chemical improvements in making iron, refining sugar, bleaching cloth, manufacturing soap and glass, and even *loco-foco* matches, and composition for razor-straps,— from scientific changes in most kinds of mills and their gear,— from the use of the circular saw in many new objects,— from planing and grooving by machinery, to the employment of the lathe, so as to turn even crooked lasts and gun-stocks, and saw, cut and punch, iron almost as easily as wood; and, beside, vast improvements in stoves and warming buildings, and in the new uses of India rubber, and in printing by improved presses and steam, and in the making of paper: to save such time in business, also, as to be able to manufacture a book from the rough rags in a single day; tan leather in a week; wear cloth made up from the raw cotton or wool in half that time; convert the coarsest scraps of iron into nails or hoops in a few hours; force the hardest substance to yield before the compound blow-pipe in as many minutes; use galvanism to plate with silver or gold as quickly; paint a portrait by sunbeams in a single minute; and, indeed, carry on distant correspondences, by electricity and magnetism, with a speed that would encircle the globe itself in less than a second; with a myriad of other cases, showing the infinitely new ways in which an ingenious and enterprising people delight to apply science for practical benefit.

If still more illustrations were needed, one might ascend from earth to the heavens, and see what has been done in telescopes, quadrants, orreries, and other instruments, to unfold their mysteries, or convert

their movements into guides to man over pathless oceans and deserts; and anticipate, if possible, the still new and gorgeous worlds yet to be opened to our gaze and practical use, through improvements in observatories and in reflecting glasses, by the continued efforts of scientific skill; and, at the same time, for our awe, and admiration, and religious homage, developing a mechanism in the great Architect of all things as far beyond ours — our highest — as ours exceeds that of the savage,— and extending from the flower and crystal, and the living frame of insects, as well as mammoths, to all the marvellous laws of the planetary system, so unfathomable in extent and skill, that, great as were Newton's discoveries into them, they seemed to his mind only a few pebbles on the shore of an ocean.

Passing from the consideration of what has been done mostly in private life in the use of science, I shall next advert to some evidence of the attention of the General Government to the same subject, and which have been not only gratifying to its friends, but creditable and useful to the country.

In a new quarter of the globe, and under the pressure of wars, national debts, and numerous internal improvements, it is natural that less attention should be bestowed on the regular encouragement of science by any government. But that this has been the result of special circumstances here, rather than serious doubts in the many concerning the expediency of yielding such encouragement on subjects of an important public character, can hardly be questioned, if we take a slight retrospect of what has been done in this matter in particular cases. Our people, when at peace, have not, as some suppose, thought wholly of felling forests, or raising cotton, or catching fish and whale, and the beaver and buffalo; nor have they been engrossed entirely in party feuds as to presidents and tariffs, or in the amusements and profits of banking and distributions. On the contrary, mingled with these, not only have they, in private life, encouraged liberally other objects, connected with education and science, but at times have made their governments do it; deeming it right, in several instances, some on a small and some on a larger scale, to push the public, no less than private energies, into measures of that character. The powers of government, to be sure, are with us, in many respects, limited by written constitutions, which ought, till altered, religiously to be respected. But, all republican governments being made for the people at large, and with a view to advance their interests and wishes, it is proper, that when the people themselves are intelligent and friendly to letters and science, they should seek to advance them in and by the instrumentality of constitutions and laws, and all other public auxiliaries, no less than by private efforts. Constitutions are but means for progress as well as security, and are usually adapted to both; but, if found too stringent for the age, can and will be amended. Hence, when our fathers sought to diffuse intelligence more widely among the whole, they brought the combined power of the whole to coöperate

with the liberality of the few, and in most of their constitutions embodied expressly some provisions for this object; maintaining in several States, through their constitutions and laws, and the public treasury, free schools, open to every class of the community; and sometimes they endowed, in the same way, academies and colleges, to teach higher branches of education and science. So, by their General Government, under its constitution, they have deemed it lawful, no less than useful, to shower over the whole west and south-west large donations of land, to assist in instilling some of the elements of science and letters into all, — to help to remove the forest and stir the soil, not only of that vast territory, but of every human intellect upon it, in order that each might be made to put forth a useful harvest, rather than thorns and thistles.

To form some idea of our patronage in that way, Congress has already granted near half a million acres of land for universities and seminaries of learning; and, at the same rate for the other surveyed lands not yet sold, it would be increased to one and a half millions; and, besides this, Congress has reserved for the maintenance of schools, in the townships sold, near six millions of acres more,— swollen to twenty-one millions in the land already surveyed but not sold; all of these are worth, at least, twenty-eight millions of dollars, equalling in value an annual appropriation of over a million and a half to these intellectual objects alone. No less constitutional and wise has been the policy of Congress to adopt a course as to this District, under their exclusive jurisdiction, which encourages the same interests, by large grants to assist colleges here, and found valuable libraries; and to go still further for science in another direction, by using it in the arts to build canals, construct bridges, macadamize streets, and erect splendid edifices at the public expense, and then adorn them with classical statuary and paintings, medals and engravings, and costly colonnades, and every variety of architectural embellishment. Statesmen of all parties, and from all quarters, whether of Jefferson or Adams, or from the once wilderness of the west, or the fair savannas of the south, have vied with each other in measures so reputable to the nation; and also for completing elsewhere those buildings designed for objects within our granted powers, — such as custom-houses, mints and hospitals, — and doing this, not in the style of barns or stables, but several of them in a manner worthy an Augustan age.

Our mints, themselves, maintained from the public treasury, have likewise proved to be highly scientific establishments, most useful to the community and honorable to the country; and the services of our engineer corps, whether on public roads, or improvements in harbors and rivers, or on fortifications, are overflowing with contributions to the useful progress of science over the whole Union. Our navy-yards and docks, as well as our armories and arsenals, are also full of its triumphs through this kind of public encouragement; and not only have the defences of the country been thus strengthened, but com-

mercial intercourse everywhere increased, in speed, cheapness and security.

Similar, in its public favor towards this subject, has been the establishment of the grand repository of the inventions of the nation — the Patent Office. Through patents and copyrights, authorized by the constitution expressly "to promote the progress of science and the useful arts," we hold out that reward to scientific improvements which not only enriches many of their authors, but promotes, at the same moment, the interests both of the government and the people, and tends to advance science itself, no less than elevate our common character to a higher standard among the great family of nations.

Inspired by like views, the instruction given by government to youthful officers in the navy and army has long been bestowed with great liberality and advantage; and though the systems are, in some respects, exceptionable, yet, by the suitable libraries purchased, the philosophical instruments furnished, and the severe sciences taught, the professional mind has been elevated, so as often to reflect back, in reputation to the country, and usefulness to its establishments, an ample compensation for everything expended.

In few other things has greater benefit been secured through science, by means of public patronage, than in the survey of our coast and lakes, now in progress; and in the present system of testing and rating chronometers, and correcting charts, all so vital to the safety of our ships-of-war and their gallant crews, as well as the whole mercantile marine. These last duties have for several years been pursued in this city with improving success, till, at last, government has completed a public depot of scientific instruments, connected with astronomical observations for nautical purposes, that bids fair, in time, to become worthy the destinies of a great naval and commercial people.

Under a similar impulse, and with many advantages, has science of various kinds been used by the public authorities, and at the public expense, in the recent Exploring Expedition. Among other fruits from it, doubtful latitudes in distant seas have been fixed; dangerous reefs and islands surveyed with more accuracy; errors in charts corrected; and, at the same time, it has assisted to bring home rare plants, and animals, and minerals; sounded new currents of the ocean, and noted the revolutions of other planets than what roll over us in northern skies; learned new languages and customs among tribes of the Pacific; and gathered up all which is curious, interesting, or useful, in the whole, and published them to mankind, with great care and expense, as national contributions to science, no less than commerce, both for us and the world. Nor has the government been slow to avail itself of the intelligence of the votaries of science in various other ways — such as the geological surveys of some of the public domain, to ascertain and increase its value; the astronomical observations and base lines to fix doubtful latitudes and longitudes, so as to settle boundaries, and save millions of treasure and life from shipwreck; the accuracy and uniform-

ity of all the weights and measures, both State and national, so as to secure exact justice as well as a proper revenue; and the publication widely among the community, for the common benefit, of many of the results of such scientific efforts, and especially of the numerous local surveys of harbors, roads, and rivers; the explorations on the mineral treasures of our public lands, and the experiments so interesting, by Johnson, on the useful qualities of many descriptions of our coal, and, by the Franklin Institute and others, on the best methods of guarding against explosions of steam.

In short, the government, as a government, having a deep interest in every improvement connected with its own operations, has gone still further, and liberally rewarded several scientific men merely for such improvements. This has been the case for valuable inventions as to gun-carriages, locks for cannon, the form of the rifle, and machinery for turning the gun-stock, as well as making of a similar size the various parts of different arms. To these have been added large appropriations for testing, no less than publishing, the plans before referred to, to increase public security in the use of steam, and ascertain the qualities of different kinds of coal; and, beside these, for trying fully — what has seized on the public mind so strongly — the practicability of the electro-magnetic telegraph.

The public usage, if not sound theory, in aiding this whole subject, seems to have been settled with some commendable liberality, and with much more uniformity than many suppose.

Our government, though one of limited powers, and, in my view, requiring the grant of them to be strictly construed, yet, in carrying out what is expressly granted, and in legislating for matters within the District of Columbia, where its jurisdiction is exclusive, has been accustomed, under all administrations, to do everything in discharge of its duties which is not prohibited nor reserved, if it seem appropriate. With such exceptions only, it has been considered right, in performing what is clearly authorized, to summon to the public cause all suitable aid and powers, whether in nature, the sciences, or the arts; — whether humble or high; whether using the stone-cutter and carpenter, to give us shelter and erect our fortifications and vessels of war; or the statuary and painter, to excite gratitude, patriotism, and emulation; or the geologist, to ascertain our minerals; or the astronomer, to measure our boundaries and coasts; or the historian, jurist, and political economist, to enlighten our legislators and judges, by their writings, as well as the executive departments in the performance of some of their difficult public functions. But, in many collateral matters, however useful to government, no special interference by public favor has been found necessary to stimulate private enterprise in the advantageous applications of science, unless particular States have done it, by rewarding such inventions as Whitney's cotton-gin, and such geological and agricultural surveys as Eaton's or Jackson's, tending so manifestly to advance great general interests. In most of these cases, the improve-

ments have been so beneficial to individuals, that private patronage has proved a sufficient excitement, in addition to the ordinary purchase or employment of them by the government, whenever well suited to supply its wants, as they have been sometimes in new uses of old materials, like iron, employed for the hulls of vessels; or new applications of chemical substances to preserve old materials, like wood, from dry rot; or new changes in the form of vessels, so as to sail faster, hold more, or stow better; or new securities in life-boats, chain cables, or pumps, blocks, and cordage, improved by scientific discoveries. All these, and hundreds of others, to cheapen clothing and rations for our troops, and reduce the cost of various public supplies, both manufactured and agricultural, benefit every log-cabin as well as the government. And their usefulness in private life has alone been usually quite sufficient to draw forth to their aid, with wonderful success, the powerful instrumentality of science.

Such, then, having been some of the past efforts and improvements of our people, through the aid of science, and some of the encouragements extended to it here, both in public and private life, what lesson, what conviction, should they teach? What duty does the whole inculcate, in this respect, hereafter? Certainly to feel encouraged, by the past, to hope for more in future, and to attempt more in all appropriate ways.

These, in my opinion, should be, not by changing the equal privileges among us that attract so much of talent and industry into the paths of public life, nor by breaking up the freedom of pursuit, that unlocks here every door, and prostrates every barrier, in the career of enterprise in any and all employments — from any and all conditions; nor, by violating salutary constitutional limitations; nor, by forbidding those equal distributions of estates among children, that prevent many of those accumulations of wealth, which can be exhausted so laudably in becoming Mecænases of the age. But they are rather for all to persevere, with all the additional means, lights, and energies, derived from experience and success; the people at large patronizing, by adopting, scientific improvements, whenever useful,— the wealthy assisting those efforts which are more remote and doubtful in their practical returns, as well as assisting the progress of the sciences themselves,— and governments, within their granted powers, collecting instruments for genius to use, and materials for it to reflect on and work up for public advantage; and also to reward genius for all its efforts in such improvements by science as become eminently useful in the operations of the government itself.

We may well continue to imitate more of the splendid examples of munificence towards improvements of this kind in other republics — such as that of Venice to Galileo, making him, in return for the telescope, a professor for life, and nearly doubling his salary. We may persist in employing future Hasslers on our coast surveys and weights and measures — future Nicolets on our boundaries and longitudes —

future Pattersons on our coins and mints — future Owens on our metals and mines,— all these, and much more that might be enumerated, did time permit — all, whenever their science and genius can appropriately be used to promote the public interests and glory. Again, nothing should be spared to value science as she deserves, by honoring her votaries in those ways compatible with our institutions, after examples elsewhere so auspicious in the cases of the Rumfords, and Jenners, and Davys, and Arkwrights. We must be diligent, also, to discover and commend her excellences in a thousand objects of practical life the most ordinary, no less than in researches into abstract questions, and metaphysics, and among the caverns of the ocean or the stars of heaven. We must omit no proper means to find out her usefulness in the very cabin, and workshop, and plough-field — on the earth, in it, and around it; and not merely far above, as many, when unreflecting, are apt to imagine is her peculiar sphere. On the contrary, we constantly ought to bring her home to our business and bosoms in every-day life, and make her the handmaid and helpmeet of labor as well as of high philosophy. In this way, modern science has fortunately clothed chemistry with a new language, intelligent and precise to the plainest learner; and made it not only analyze the air we breathe, the water we drink, and all the earths and elements around us, and bodies animate and inanimate, but show to the common mind the identity of many of their ingredients and great laws, and pour floods of light over the mysteries of their daily functions, and over most of the ordinary arts, as well as primary pursuits of mankind. It is new benefits like these which constitute the crowning excellency of her improvements, rather than such marvels developed as that machinery can now spin a bale of cotton so fine as to reach round the globe; or, by the aid of chemistry, can beat a few pieces of gold into a leaf that would cover the surface of kingdoms; or that a microscope will disclose more animalculæ in the melt of a single fish than there are people in the world, and the enlarged telescope unfold, in the heavens, myriads still greater, of planets and stars. So in geology: the end is not to ascertain merely that the interior of the earth resembles that of a vast steam-boiler,— its volcanoes safety-valves, its earthquakes explosions, its mountains and valleys early expansions or contractions of the mineral crust, and the impressions of fish and huge bird tracks among its rocks living acts before some of it was hardened,— but it is to learn more of man's marvellous origin, means, sustenance, duration, and more of the probable progress, as well as powers and destiny, of his race, here, if not hereafter. So in natural history: the great object should be, not merely to add a new flower or insect, shell or mineral, and there stop, as some seem to misapprehend; but it is to make new tributaries to the comforts and advancement of humanity,— to prevent weeds often, and dross, from being longer out of place and worthless, and discover in some new plant, for instance, that which will furnish food for millions — like the potato or Indian corn; or new dyes to the arts, like indigo

and madder; or the same in some new insect or shell, like the cochineal and purpura; or new medicine and clothing in animals themselves, like the Spanish fly and silk-worm; or unfold new uses and values in old substances, like ammonia and potash, so employed as to accomplish what has been considered so superior to the doings of all mere politicians — "to make two blades of grass grow where only one did before;" or, like electricity and galvanism, so applied, as is now doing, as to promote a similar good in agriculture; or, like whale-oil, find a new market in increasing the speed of locomotives, as well as manufacturing machinery; or, like salt, by new extracts of soda from it, advance astonishingly several most valuable branches of business. This last, though in appearance so humble an improvement, is said already to employ more capital than the whole coffee trade of the world.

After applying usefully all scientific discoveries, whether made at home or abroad, another object should be to move onward still further, and do our part in enlarging and perfecting the sciences themselves. Not content to be mere copyists or imitators, let us strive for a due share of originality, freshness, boldness, independence; seek to make new discoveries in everything useful; force from nature more of her secrets; increase as well as diffuse knowledge; and excite and draw out all our latent or peculiar advantages,— everything new in our country, or its productions or social position,—and thus add our full share to the great truths and common treasures of the civilized world.

But I have not time to enlarge on this, and should here terminate the argument, were it not manifest that many suppose the public mind, under our political institutions, is more stiff-necked or impracticable than elsewhere in encouraging improvements either in or by science, and more sceptical as to their utility, as well as the public authority or expediency in any way to patronize them. But, in my apprehension, the facts already alluded to show this to be a mistake.

The chief difference is, that many, rather than a few, are here to be convinced. It is here the many who are to be benefited; the many who pay and rule. The public mind itself is even more open than elsewhere to argument, if it be, as most of us believe, more enlightened; and only satisfy it that any encouragement of science is likely to end in practical good, and our whole history demonstrates, it will be seized on with an avidity even beyond what exists in most other places. Our people are also a reading and reflecting and ambitious people; and if you convince them that the encouragement of science has, in other countries, proved commendable and useful, will they not believe that such encouragement is even more so here? And will they not see that it eminently becomes a people claiming to be the most enlightened, a government boasted to be the best, to discover and secure promptly all possible benefits, and call forth all latent powers? Will they permit a government of the people to be unjust to the people themselves, and neglectful of their advancement?—a free and Christian republic to be cast into the shade by monarchies, and even Pagan

despotisms, as to anything that expands the intellect, elevates the soul, ennobles the character, or augments its power, whether in arts or arms?

On the contrary, ought we not to expect them to use every proper effort to shun the sneers of foreigners at our incapacity, and to falsify their scandals, that we are inclined to make war on learning? — or play the Goth with the splendid monuments of arts and science — consigning, Omar-like, libraries and cabinets to rottenness or flames, and evincing a Jack Cade aversion to everything that favors progress in intelligence or civilization? Very far from such a spirit was that of the founders of the colleges, and the tax-paying supporters of the free schools of the north, or of their imitators in the south and west, or of those who incorporated into our land system such liberal grants by the General Government for both colleges and schools; or of the statesmen who made it an express constitutional duty to encourage inventions and authors, under a far-seeing sagacity, that otherwise we were not likely to keep up with the age in scientific improvements, and be able to compete with foreigners successfully, whether in producing or selling, either at home or in the markets of the world, by making as cheaply our vast products in agriculture and manufactures, and navigating the ocean with them as cheaply as others.

But the considerate must see that there is an obligation devolved upon us, as the leading republic on this new continent, much higher than merely to avoid censure, or aspire to equality, in these respects, with arbitrary governments.

It is to demonstrate to the old world, by deeds, no less than reasoning, that our new theory of private rights and public duties is conducive to progress in everything useful; and this should not only become the views and the effort of the statesman and the patriot, but it will be a common and national feeling, more and more yearly, with every new ray of light poured into the public mind, and with every new sting of insult or taunt from foreign envy. Already do many see that, with some obstacles, there exist many encouragements to scientific exertions, growing out of our peculiar institutions, and which may, by a useful policy, and conviction among the many of its truth, be made to render that exertion not less, but even more effective than in any other portion of the globe. Thus, in a population of twenty millions, for instance, where most are educated and aspiring, instead of a small fraction, and where the intelligent force of all kinds, in any given number of persons, is trebled or quadrupled, and the masses, instead of being a dead weight or clog, as elsewhere, unite with the rest in imparting stronger momentum to the whole advancement of society, can it be tolerated, for a moment, that the scientific progress of the whole is to be retarded by such vital differences? On the contrary, have we not, and will not our community think and act as if we had, a new mission before us, to illustrate the increased energies of the many over a few in science, no less than other things, by requiring, and thus rewarding and encouraging, more frequent efforts — efforts on more subjects — and

efforts for, as well as by, a far greater number? The consequence has been already, that where one person formerly used his intellect entirely in planning inventions, or advancing his fortune by new instruments or machines, fifty now do it here, and demand corresponding aids in proportion from science and letters. So, where one then read, and thus made a market for books, twenty now do it here, and increase the production and sale of reading matter in a like ratio. Hence many are induced to engage in literature and science, either for bread, philanthropy, or glory, who would never have attempted it before; because, instead of a rich patron here and there, or a jail, they now have millions in private life to buy and employ, or applaud, and, at times, as public stimulants, either grants of money, or profitable business, or the brilliant attractions of foreign embassies. Instead of the interest of our people, then, in these efforts by science, being less, or more difficult to reach and excite, a wider door is opened and broader stimulants are presented for her exertions; and, in this way, much more is likely to be matured here, as to improvements in and by science, and matured, not accidentally, but by continued exertion and appropriate means; by new laborers added, or new experiments tried; or new facts collected, or new excitements offered to the human intellect. There is encouragement in these, because the art of printing, for instance, that daily boast of modern science, was invented only by pushing a little further, and maturing the seal or signet which had been used for ages to print names and symbols; and steam, applied at last to cause motion on land or water, was only a mere extension of its power from fixed to movable machinery, as had been extended before the power of wind, and of the horse.

The railroad, for transporting passengers with such speed, was but maturing the use to which it had been applied near a century, for carrying heavy burdens on levels and inclined planes. The electric telegraph, likewise, so simple, and yet so effective, is another evidence of the benefit, under the wider and freer impulses here, of persevering efforts and new combinations, which escaped even the ingenious mind of Franklin. So Kepler's discovery of the general law between the revolutions and distances of the planets, so perfecting every way to that science by which we see the celestial mechanism that changes the seasons in order to make all parts of the earth habitable and fertilized, and are enabled not only to triangulate or survey its surface, and navigate its oceans, but measure time, measure the heavens themselves, and fix the dimensions of the planets, no less than their distances and revolutions — I say, that did not happen till near sixty centuries had been devoted, more or less, to the study of astronomy, and Kepler himself had spent seventeen years of patient research on it, and then announced it to the world with this memorable exultation: "The die is cast — the book is written — to be read either now or by posterity, I care not which. It may well wait a century for a reader, as God has waited six thousand years for an observer." What to

this is Cæsar's *veni, vidi, vici!* or Alexander's sighing for more worlds to conquer? And though the exact moment or place cannot be foreseen in which the blow shall draw fire from the flint that never before sparkled, or the seed vegetate that has slept in its coffin for ages, or polish display the latent beauties of the marble which is still in the quarry, or science discover new mechanic powers, new wonders in animal life or vegetation, and new agencies in nature, outrivalling wind, water, fire, and electricity,— yet we do know that the field is broader here for such exertions, the skies brighter, and the masses daily more fitted to appreciate what is valuable, and to need and attempt it, as well as to encourage others to attempt it. We are all, too, more inclined than formerly to expect it from suitable efforts, rather than calculating to gather figs of thorns; and to look for valuable improvements here, not by neglect or indifference, but the use of means — means appropriate, both public and private, stirring the soil of the mind by the plough and the hoe, suiting the seed and culture to the position, inviting sunshine and showers, and keeping all in more constant as well as vigorous action, by letting the enlightened impulses of our free systems have full play. Even then we may not be able, and our people may not be convinced that they should try, to rival Paris, or Vienna, or Rome, in some of the fine arts, used more to embellish and please than strengthen, as we do not wish to rival them in some of the causes of their splendor — a long and wealthy race of princes, and a neglected, if not plundered, people. But, if we do not quite as fast do all that constitutes a State, in raising "men, high-minded men," — if we do not elevate the masses in morals — educate, multiply, and enrich the whole — improve the country in its agriculture and manufactures, strengthen its defences, expand its commerce, and enlarge all its capabilities for good, as well as contribute a full share to the progress of useful science,— then the peculiarities of our institutions will, for most purposes, prove worthless, and our citizens must cease to exult in them. It may turn out, likewise, that our people and governments will not be persuaded to patronize, so much as some others do, abtruse inquiries and curious researches. For, though the pursuit of alchemy or the philosopher's stone, as well as of an elixir to cure all diseases, probably led to the great discovery of gunpowder, and some of the first improvements in modern chemistry,— and though the study of astrology was the parent of modern science in astronomy,— it can hardly be expected, among a people and governments where the tendencies, the impulses and ends, are all practical, that remote benefits will attract favor so strongly as more immediate ones; and hence, the more secluded walks of science must here generally rely more on the bounties of a few than the encouragement of the many, or of public bodies, and depend as much on the taste, means, and perseverance, of its own votaries, as do, in most cases, all those pursuits which yield only very distant returns; or those which, looking to pleasure and glory more than profit, find their greatest reward in expanding the mind, and

producing more elevated feelings, and a higher purity of life. But the impression is yearly gaining ground in this country, that it becomes us all, under every discouragement, to discover and reward the usefulness of science, however, wherever, and whenever, it may be developed. Such a course, it is beginning to be seen, will not merely extend her empire, but enlarge the empire of the very classes who usually heretofore have been supposed to possess least interest in her progress; for the masses have already been aided, if not enabled, through her, to control many of the adverse influences in society, whether of birth, ambition, or monopoly: and, as one instance, by a new scientific combination only of nitre, sulphur, and charcoal, imparting a much greater importance to the lower classes in wars; and preserving from extirpation, by barbarians, the arts, letters, and civilization of modern times, they have found that these arts and letters are now, by their longer life from this cause, and their wider diffusion, even to new worlds, by another application of science, through magnetism, to aid navigation — and by another still, through the press — are now penetrating deeper into all the under layers of society, and working among them most unprecedented revolutions. The masses, then, that possess an influence here so predominant, must, and do, see and feel more, every year, this auspicious truth. Conviction of the utility of scientific improvements to labor itself will thus more and more press on them from all sides; and, being better informed yearly, they will discover quicker and further their own true interests; and, in connection with them, the vastness of the changes going on in their favor. And we need no stronger evidence how this is influencing the whole operations of our social system, and elevating the working classes so as to appreciate it, than to remember that man is sometimes distinguished from other beings by calling him "a tool-using animal," and that it is in these tools — in labor-saving machinery — the greatest advances have been made; thus enabling, not merely one person to perform the work of two in some branches of business, and of hundreds in others, — maintaining, in this mode, a population both larger and better, — but that, while science has helped in this way to quadruple manufactures, facilitate commerce, and greatly improve agriculture, these very additions have, in their turn, caused still further ones, and enabled all benefited by them more liberally to reward, not only labor, but the efforts of science herself, and thus increase her progress; acting and reäcting, till no limit can be assigned to her advancement in the long vista of the future, except what grows out of the finite character of the human faculties, the shortness of human life, and the imperfections of everything earthly. The nature of man is well known not to be changed by this, and by most of us is not expected to be; but the great difference is, that the means of progress here have, in many things, become so wonderfully advanced by scientific improvements, we may justly unite with him who pronounces science to be "the mightiest Titan now beneath the skies;" and well hope that his

"march is onward, onward, to impart
Some Archimedean power that yet the world may start."

Whole orders could now more easily be maintained in devotion to scientific pursuits than a few individuals could be formerly; and in this way, beside the increased attention of millions occasionally to suggest and advance improvements, many are enabled to make it the permanent business of their lives, and perfect more, and invent more, what shall not only enlarge the boundaries of science, but the dominion of man over rough nature, — subjugating all the elements around him, faster to promote the comforts, the wealth and glory, of the human race. Whatever may have been the case once, our people are now beginning to rise above the indulgence of any narrow prejudices as to this; for they see that persons employed like these last are not drones in the social hive. While some make the honey, others, equally laborious, collect wax to form the cell; others construct it, and others toil in polishing it. Each is useful in his appropriate sphere; and most of our population have become entirely competent to see that each person becomes, in human affairs, more useful by more careful training, and more liberal and appropriate acquirements.

Indeed, learning is vain, all education is vain, if we cannot, and do not, appreciate better, as better educated, the importance of this training, and all appropriate information, scientific or otherwise, for particular stations and pursuits, and raise the standard higher which is required for distinguished success in all the more difficult professions and employments.

One of the peculiarities of our whole country, as far as the settlements extend, has become, that we now have no uncivilized portions, in the common use of that term; all being occupied by men accustomed to many of the practical benefits of science before their emigration, and carrying with them tastes and intelligence to introduce these benefits as speedily as possible, and to appreciate their value, rather than oppose the encouragement of them. Or why do you see the steamboat smoking its way even to the Falls of St. Anthony? Or why the railroad and canal stretching across regions where but recently the hunter trapped his game? Or why cities rising near girdled timber, and schools and colleges planted on the skirts of forests? Even the Passamaquoddy Indian has become convinced of the inferiority in travelling of his birch canoe to the steamboat and railroad car; and while he now uses the aid of science in his migrations, as well as in his rifle and gunpowder, instead of the bow and arrow, and in his machine-made woollens and cottons, rather than skins for clothing, he but recognizes that confidence in superior science and skill, in all appropriate matters or stations, which has increased, under the lights of the nineteenth century, over our whole country, — is increasing still faster, yearly, — and which, by due attention, will hereafter work still greater wonders.

Not that this will make our people wish, as some seem to fear, to break up the tried systems of education for mere youth, and to wage war on classical literature, and substitute in schools philosophical instruments, and steam engines, and model machinery, for books and moral teaching, or to desire what Lord Bacon deprecated, — "a solitude in respect of able men, to serve them in causes of state." But, with a due regard to those, it will, and it ought to, render them anxious to furnish more substantial helps to middle and advanced life, no less than youth, and enable the industrial classes more fully to master those numerous uses of science which assist so directly to strengthen individuals, as well as states and empires.

Nor does this course towards science and its votaries tend, as some, without due reflection, apprehend, to patronize a particular class in society, and therefore become objectionable under our institutions; but, on the contrary, it patronizes from all classes, as is just, those individuals who may choose to try to educate themselves, soundly, for their peculiar spheres. They may come from the workshop, or the vessel's deck, or the farm, as well as the parsonage or palace, — come as did Franklin, and Fulton, and Bowditch, and Rittenhouse, cradled amidst labor, with hard hands and sinewy arms. It is the same, if they only wish and will to advance; and, if the coal from the altar of science but touches their lips, then they alike see with new eyes, hear with new ears, and a fresh spirit seems to them (some in one thing and some in another) poured over the face of nature, and breathing into it new uses and new forms of life, beauty and design. They then, too, equally attain honors and wealth; fêtes and exhibitions do homage to the plough, the anvil, the saw, the type and the compass; royalty, no less than the multitude, seek to use, as well as admire, their best productions; and the brow of honest labor, lighted up by science, becomes often no less conspicuous in courts and cities, than in hamlets or on the lawn.

Ought we, then, to distrust the intelligence of a people like ours, to appreciate properly, and promote properly, the benefits of science?

Closing the considerations on this subject, which, I fear, have already been extended too far, it may be deemed proper for me, before sitting down, to state whether, beside the general encouragements in private and public life already referred to, any further particular acts appear necessary to be done here, to advance the cause of science and its various uses, so as to be beneficial to the country at large, no less than this District. With much distrust of any opinion which may conflict with what comes from others who have devoted more attention to this subject, it seems to me that we want, in this place, as likely to be thus beneficial, first, buildings of elegance, and liberal accommodation for objects of science and letters; then, libraries, that furnish the best food of the mind, — the medicine of the soul, — resembling in character, if not size, those of Jena or Gottingen, or the choicest abroad; next, full collections in every leading department of natural

history; then, free lectures on useful branches of knowledge, to all who may please to throng their spacious halls; then, a wide publication of all new inventions and new theories; next, all valuable instruments in philosophy, and laboratories for experiments; and, lastly, over the whole, the control, vigilance and coöperation, of the ablest men the neighborhood will furnish, to carry into effect the instructions of Congress, watchfully given from time to time, under the temper and influences of our free institutions, and with a noble devotion to the improvement of every art and science, and every rank and condition in life. Of all this, except the Congressional library, and some fruits of the Exploring Expedition, we have got only the National Institute, whose members I now have the honor to address. It is not simply the acorn of all we hope for; but, at the same time, it is further still from being "the brave old oak" of a thousand years' growth, and beauty, and strength, to which we look forward. Planted in a city not of the largest class, unaided by great endowments, and existing at all but a few years, it has still, under some countenance of the government, and by the disinterested zeal and efforts of a few individuals, become somewhat known and respected abroad, as well as at home. It makes no pretensions, compared with what has been growing elsewhere for centuries, and what elsewhere has had, for encouragement, the munificence of royalty, and the daily smiles and exertions of throngs of savans and scholars. But the eyes of many in the Union, and in foreign lands, have been turned anxiously on its progress, to see how its labor may succeed in applying science more to aid practical life; and, by observing and describing, collecting and preserving, with increased attention, all that is curious or rare in this new world, — to throw more light on the life and character of its aboriginal inhabitants, or its animals of all kinds; its plants, shells and minerals, as well as its lakes and rivers; its prairies and mountains; its tides, winds and seasons, or something more of the mysterious history of its settlement and civilization, — as in Mexico, Yucatan and Peru, previous to the last four hundred years. Among several other objects, one of the departments of the Institute is specially devoted to "American history and antiquities;" another, to "the application of science to the useful arts," and another to "agriculture."

Much, certainly, has already been accomplished, by aiding to furnish many new materials, books and valuable collections, to assist in scientific researches; and the admission of all persons freely to the inspection of what it possesses has made not merely a few generous in increasing those collections, but has begotten a zeal, almost universal, to contribute something, if even the widow's mite, to swell them. It has developed, also, some new ideas in its public papers, creditable to the country, and has been the means — of what it expects to repeat often, under larger resources — of gathering, occasionally, into one body, many of the best intellects of the Union, for interchanging, not merely

specimens, but scientific views and projects, between different as well as the same classes and professions, — thus breaking away, at times, from the dusty turmoil of the world and of politics, and mingling in peaceful meetings, where all are learners of something beneficial to themselves or the community, while acting side by side in that greatest of all republics, "the republic of letters." The communion of minds there — the mutual discoveries and improvements made, and the impulses imparted by new articles, new books, new instruments, new suggestions — will often be felt widely, afterwards, amidst the lights and shadows of life, and be diffused rapidly, in a country where neither political nor religious intolerance and bigotry can resort to dungeons and penances to delay the spread of new theories in science or philosophy. However slow, then, may seem to be the influences of institutions like this, they often stir, in these ways, the soil, or sow the seed, which, in time, yield a new principle or invention that improves the world for ages; and when great results seem occasionally to happen from accident, or on a sudden, they will be found, in most cases, to be but the mature fruit of what begun, in this or some other way, ages before; and hence, the fall of an apple, or the repair of an old engine, with minds like Newton's and Watt's, only helped to solve the last of their perplexities, after much had been previously thought, and said, and done, to become ripened for improving such occurrences. It would seem, then, that all, in addition, which is needed here to promote the cause of science, and diffuse its blessings still more widely over the whole country, might well be built on the Institute and collections which now exist; and if I am asked who shall be the builder, and who furnish the materials, I would say, in reply, that some expect a few minds in advance of the age, or emulous of good deeds, and possessed of surplus thousands, will, ere long, dedicate some of them to this philanthropic end; and thus, by what would otherwise be squandered, perhaps, among thankless heirs, become enrolled with such benefactors as the Yales, and Harvards, and Phillips's.

But till such an event occurs, others contend, plausibly, that Congress is bound, by its relations to this District, as well as to this important subject, to take all necessary steps here for its advancement, through some institution, which shall be national in its origin, so as not to offend our pride of character, and national in its benefits, so as to comport with that spirit of justice and equality that ought to pervade all our public measures.

No constitutional difficulty, under this view of the subject, existed with General Washington, or Mr. Madison; and two grants of public lots, in this city, large in value, were actually made by Congress to the colleges existing within this District, under President Jackson's administration. But if, after this, and the cases and analogies before cited, honest scruples should still exist against such a course, it has fortunately happened that a foreign philanthropist has opened another

way for accomplishing much that is desirable, without any resort whatever to any public means. Smithson has placed in trust with the government a most liberal fund for increasing and diffusing knowledge among men. It has been accepted, and this Institute is an existing, and seems to me a most appropriate agent, to be employed, under the directions of Congress, in discharging portions of so important a trust, — a trust so sacred and imperative that a longer delay to execute it might prove not a little derogatory to our national honor.

Should the plan for this not be speedily matured, including the use of the Institute or its officers, then a grant, at once, of enough to defray the expenses attendant on the good preservation and collection of the public materials in our charge, seems indispensable, and is believed also to be free from every doubt connected either with expediency or the constitution, as many of the collections now belong to the government, and all of them are vested in it when the charter expires, and may be forthwith, if desirable. What small sum, then, is granted for this object by the government, is granted for taking care of its own property, the title of which is public, the use public, the whole end and aim public; and that act of duty done, we hope, by the further help of our own contributions, with those of liberal friends of science elsewhere, — by the continued and generous assistance of the officers of the army and navy, of our foreign ministers and consuls, and foreign friends, as well as the members of Congress, and many in private life, — I think it may be safely said that we hope to advance still further and faster, till we render the Institute, in many respects, worthy its unrivalled position, and the growing country to which it belongs. In fine, as our materials multiply, and needy and enterprising genius resorts to them for aid, and the capital of the Union becomes more crowded for business or amusement, all, whether in private or public life, will also have in it a place of resort in their leisure more instructive than gaming or the bottle, or too much of the frivolities of fashion; and the influences of this for good, like those of the invisible dews, must be more and more felt through the whole republic, and to the remotest posterity. And not the least of the advantages will be that which flows to mankind from all kinds of encouragement to scientific developments of the laws which pervade and control every part of creation, — I mean the increased moral and religious feeling they are calculated to inspire. Instead of tending to check this, as some fear, they are, in truth, a revelation of and from God, almost as striking as ever was written on tables of stone, or by the pen of prophet or evangelist. Nature is thus full of apostles from on high. And if an undevout astronomer has justly been denounced as mad, how truly must that person have eaten of the "insane root," who can trace out similar ways of Providence even in a dew-drop, or ray of light, no less than loftier objects, and not become, at the same moment, more humble in the visible presence of such Almighty wisdom, and more disposed to obey all his wonderful laws!

THE REMEDIES FOR CERTAIN DEFCTS IN AMERICAN EDUCATION.*

On this occasion, a few suggestions will be made, with a view to aid in correcting some defects which exist among us in education. By education I mean the whole preparation for the duties and trials of life. Instruction in the broadest sense — physical and moral, no less than intellectual — is intended to be embraced. Nor should it be confined to youth, but be viewed as extending both its sphere and influence from the cradle to the grave.

In order to cure defects, it is desirable, in the outset, to understand thoroughly their origin and character. Ours are believed to spring chiefly from certain peculiarities in society and government in this country, some of which are very prominent. One of them is the more equal division of power and property among all. That generally produces a diffusion of common acquirements wider, or to a larger portion of the whole community. But, at the same time, it opens a door to greater imperfections in those acquirements, as well as in higher attainments.

Another of these peculiarities is the increased freedom from restraint, almost inseparable from institutions so popular in form as ours. It is being left more to self-government; and the natural consequences of it are a discipline less strict and stronger self-confidence, bordering even on rashness at times, in business, as well as all kinds of public action. Without detaining you, at this time, by a specification of further peculiarities, and without denying, but rather rejoicing, that some advantages accompany these, — such as their tendency to elevate, in the social circle, as well as in politics, the great mass of society, — to bend legislation throughout to the interests of all, rather than of particular classes or eminent individuals, — to govern quite as much by public opinion as by magistrates, and to have experiments made in almost everything where improvement is possible, — yet it must be obvious that defects also, like those before alluded to as the usual consequences of our peculiarities, are apt to follow from their prevalence.

These defects, even if mortifying to self-love, it is more manly to confess and more American to cure, if practicable, than to attempt concealment and evasion, or persist wantonly in error. Honesty and boldness to probe and expose them are the first steps. Then, their correction, though difficult, from the intimate ties between them and our political institutions, is undoubtedly, to some extent, feasible; and

* An address delivered at Washington, D. C., and other places, 1842.

by all those who love and respect those institutions will be attempted, in some mode not dangerous to their structure, nor hostile to the true spirit which pervades them. In my opinion, this can be done by devoting greater attention to the means, as well as character, of education. Hence it is the duty of all, and we are to-night assembled here (I hope not in vain), to contribute something to the wide efforts now making around us for the accomplishment of so laudable an object. Much can be effected by concentrating the energies of all to three prominent points. These are, increased intelligence in the community at large, to elevate, expand and purify; next, a more thorough discipline, or, in other words, training to follow implicitly the dictates of that intelligence; and after these, as difficulties arise too formidable for them to overcome, a more constant reliance on moral and Christian principles for direction, rather than on the blinder impulses of passion, prejudice, or appetite. Those, more than any other instruments, can aid to form correct national habits of thinking and action. Without advancement in the use of those agents, and more especially the first one, it is hardly necessary, before such an audience, to occupy time in proving that the prospects of humanity are always and everywhere shrouded with shadows, clouds, and darkness. The body is but base matter, the mind but a blank, or devoted merely to the coarsest animal wants. Man remains a savage; society, a herd of beasts of prey; and civilization, much less any important progress in arts, science, virtue, or political greatness, becomes utterly hopeless.

It is, therefore, important to ascertain what are the most efficient methods of augmenting or advancing the power of some of the great agents before alluded to, and, at the same time, to illustrate, as fully as the occasion may permit, the searching, wide and all-pervading influence, the whole of them are calculated to exert, in the education and improvement of mankind.

In respect to the first one, our course seems to be plain. If it be asked, how we can promote, quickest and best, the information which should in early life be imparted to all, with a view to qualify them for the greatest future usefulness, or that information which is so indispensable in riper years, to enable us to decide judiciously in the thousand emergencies which arise under our systems of political self-government, and regulate better, in all pursuits, that ardent enterprise which covers our whole country, not only with monuments of prosperous greatness, but unfortunately, in too many places, with wrecks and ruin?

I answer — by the press — by the press, in all its various forms. In the front rank, books. These should be better compiled, and less expensive. After these, a bold, intelligent, honest newspaper press. When of such a character, it becomes truly "a happy work," and more than "a map of busy life, its fluctuations and its vast concerns," because it does much to shape and control those concerns in every position and under every vicissitude. It carries intelligence and argument, wit, wisdom and contemporary history of all kinds, to every

hearth-stone, however remote or humble. Mingled with this are, doubtless, some licentiousness and malignity, as well as folly; but the useful is believed greatly to preponderate.

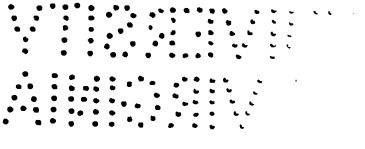
Next, by a just and learned periodical press.

I answer further, by having the schoolmaster more widely abroad, fitted not only to teach the "young idea how to shoot," but to train, expand, and mature it.

I answer further still — by free schools, everywhere. Open, in this manner, the "ample page" of knowledge, whenever and wherever an immortal soul exists, that can be warmed into action by hopes of greater wealth, honor, fame, or usefulness to mankind. In brief, beginning with the press, do not end with it, till all its forms are exhausted, all its instruments tried, all its avenues explored, and its whole powers of every kind improved.

In diffusing its productions wide, go to the cottage as soon as the palace. Seek out the real log-cabins of a wilderness frontier. Explore the dens of poverty and crime in the crowded city. Enter even the cells of the penitentiary. The mission is to all. Make it more effective, too, by bringing knowledge more readily within the reach of all, through successful efforts to diminish its expense. Lessening the cost of printing is the most important step towards this result; and hence, we should specially encourage in it labor-saving machinery and steam power, with all their civilizing wonders, to enlighten as well as enrich mankind.

Print, if possible, beyond even the thirty sheets by a steam press now executed in the time one was formerly struck off. Go, also, beyond the present gain in their distribution over much of the world by improvements in the locomotive and the steamboat, so as to accomplish like results at far less than the former cost. Promote the discovery of still further materials than rags, bark, or straw, for the wonderful fabric of paper, — used, not merely as the ornament of our drawing-rooms, the preserver of history, the organ of intercourse between both distant places and distant ages, the medium of business, the evidence of property, the record of legislation, and in all ranks the faithful messenger of thought and affection; but, above all, the universal instrument of instruction. Reduce still further, by new inventions, the already low price of manufacturing paper. Render types also cheaper, as well as more durable. And, in short, set no boundaries and prostrate all barriers whatever to the enterprise of the human mind, in devising greater facilities for its own progress. Next to these considerations, new means might well be adopted to improve the quality of those books which are in most common use. This could be accomplished by greater attention to their practical tendency and suitableness to the times in which we live, and the public wants which exist under our peculiar institutions, whether social or political. The highest intellects might beneficially descend, at times, to labor in writing for the humblest spheres of letters and



life. In cases of long and obvious deficiencies in books designed for particular branches of instruction, boards of education might well confer premiums for better compilations. Such boards might also, with advantage, strive to multiply institutions particularly intended to prepare more efficient teachers, female as well as male. In short, the fountains must always be watched, in order to insure pure streams; and the dew which descends nightly on every object, and in all places, however lowly, is more useful than a single shower confined to a limited range of country. We must take paternal care of the elements on which all at first feed; and if in these modes we seek with earnestness the improvement of the many, we help to protect the property and persons of the favored few as much as we elevate the character and conduct of all situated in the more retired walks of society. There is another powerful motive for exertion, even by the higher classes, to advance the better education of the masses. It is this: the wealthy, for instance, can clearly foresee that, by the revolutions of fortune's wheel, their own children, or grandchildren, are in time likely to become indigent, so as to be the immediate recipients of favor under any system of free education, and thus may be assisted to attain once more rank and riches. Nor should the talented be parsimonious in like efforts, because a degeneracy of intellect, not unusual after high developments in a family, may plunge their posterity into ignorance and want, where some untaught Addison or "mute inglorious Milton" might, after a few generations, reäppear, but never instruct or delight the age, unless assisted at first by opportunities and means furnished through a system like this. All which is thus bestowed will likewise prove, not only an inheritance for some of the offspring of the favored classes, but a more durable one than most of those honors and riches, endeavored so often but fruitlessly to be transmitted. It is true that vicissitudes seem impressed on almost everything human, — painful, heart-rending vicissitudes, — which the fortunate dread, and would mitigate, if not able to avert. But they belong less to systems than to families or individuals, and can be obviated best by permanent plans to spread stores of intellectual wealth, constantly and freely, around all. Indeed, an expenditure of this kind must, in one view, make even selfishness liberal, as in no way could refined self-love form so enduring a hoard or treasure, to benefit its posterity and name, as by contributing to build up, enlarge, or in any way improve, a system of education which may found the fortunes and glory of some of that very posterity, when become impoverished; and for whose grandeur so many toils may have been otherwise lavished in vain. It is the safest investment of funds, because it can never fail to do good, even to our own, till all the laws of the social system fail; and because it rests not on the strength of seals, or the wealth of sureties, but on the great foundations of nature, civilization, philosophy, and the interests of millions in successive generations to sustain it. Another important consideration is, that under such an

aspect of the subject, the high and the low will always feel less of either prejudice or envy towards each other. The former will in the latter class see the persons or the parents of those who are destined, ere long, by free and useful education, under our popular forms of government, to influence, adorn and govern society. On the contrary, the poor will in the wealthy and honored see, not what is unattainable or unapproachable by them, as might be the case under different institutions and teachings, but the more desirable fortunes which, in the true philosophy of our political system, must, as deserved earnings or brilliant prizes, await ere long the superior industry, intelligent and cautious enterprise, and well-regulated morals, either of themselves or the children they love.

Both must, in this view, more justly appreciate the importance to each other of the exertions now commended; and more especially must the humble in life look favorably on the possession of wealth and honors as a system, rather than consider them unjust or odious, as is the disheartening view which has so often prevailed under different institutions, to the disturbance of the public peace, and the destruction of all general improvement.

When, therefore, all are properly informed, the distinctions in society as to office, and its balanced protection of property as well as person, will appear as full of encouragement to the poor and lowly in anticipation, as they are to the rich and high in fruition.

Another powerful instrument to promote this object, of increased information among all classes, is the wider extension of commerce. Commerce teaches often, by example, even more effectually than books do by precept. Whether foreign or domestic, it is, whenever easy, frequent and active, calculated to pour a flood of light into the human mind, on almost every subject, and to strike it with the more force, as it is light from practice, light from actual experiment, light from living and embodied excellence. No matter whether the defects in our education relate to politics, religion, literature, the sciences, or the arts, — in all of them, precept, compared with example, is uncertainty and doubt compared with reality. Example is theory verified, and therefore, when seen by travel or commerce, as new example often is, it becomes more convincing than the strongest argument. Hence the proverbial advantages arising from good companions and foreign travel.

These considerations, on a broader scale, apply to nations, as well as individuals; and each nation, by free commerce within itself, makes the merits of every part better known to the rest, and enables every part to profit by the excellences of the whole. Following out the same analogies, we can see that through a liberal commercial intercourse, not only each nation, but every continent, and the globe itself, can derive from all portions some useful hints, some useful customs, some useful arts or useful laws. Frequently what otherwise would to foreigners be born "to waste its fragrance on the desert air," thus

becomes known and beneficial to all. Again, commerce, free and unshackled, supplies wants, comforts, and luxuries, whether to the savage or civilized, and whether near at hand or at the antipodes; and in this way, by rendering the surplus productions of all countries more valuable in exchange, it helps to excite, encourage and reward, the very highest exertions of both body and mind. It thus aids to educate all in most important particulars. It rouses industry in the indolent; animates the torpid to enterprise; expands the views of the recluse; civilizes the roughest, and inspires rivalship in the most sluggish. It assists to propagate new opinions and new faith, under both the equator and the poles; fertilizes every region not covered with eternal snows; and, pushing human improvement in all its varied forms, penetrates remotest seas, and crosses the Andes, the Alps, and the Himmalayan, almost as daringly as the Alleghanies. The moderns have hardly done justice to former ages in relation to their immense inland trade, enlightening and civilizing wherever it spread,—whether up the Nile from Egypt, or into the remotest Ind from Tyre, and thence from Carthage to distant Britain, and in time, overreaching the Atlantides, discovering, under the more adventurous Genoese, a new continent, and gradually pervading the whole western hemisphere.

The moderns have, to be sure, since entered the furthest isles of the Pacific, and are exploring the ice of both Poles; but it is probable they at last must sigh that there are no more worlds to find and civilize which are worth the search.

One illustration of the enterprise and educating character of commerce, when free, has recently come under my own eye, that may not be without interest to you, in connection with this topic.

During the last autumn, in a small town in the interior of Massachusetts, I found American lead, which had been dug, partly by Yankee industry and adventure, in the remote wilderness of Wisconsin or Missouri. The same industry and adventure had not only helped to dig, but had transported it through the active channels of commerce, a circuit of more than two thousand miles, from the mighty west to the rocky east; and that on routes unknown but a few years ago to anything but the fearless hunter, or the birchen canoe. Fed partly by meat from the same distant source, and corn from the south, and flour from the Middle States (fruits of the same commercial enterprise), they were zealously occupied in making this lead into water-pipes, for operations still more distant, and not a little extraordinary.

What, think you, was to be one of their principal markets? Some of this lead was manufacturing, by special order, to be freighted again, under the same Yankee perseverance, not merely two thousand miles, but nearly half the circumference of the globe. It was to double the stormy Cape Horn, twice cross the Equator, and find its pathless way over new seas into the remote Sandwich Islands. And for what use?

To advance again, as a labor-saving machine, the commercial inter-

ests of the same spirit which had untiringly explored the forests whence the raw material was obtained. It was, in the form of pipes, to conduct water more cheaply and conveniently on board our whale-ships, which, with others, resort so frequently to those islands for their necessary supplies.

The mode of paying for it evinces with perhaps greater strength the instructive influence of commerce. It was to be paid for by taking in exchange, partly sugar, cotton and oil, the products of new native labor and skill among a people not long before (scarce two-thirds of a century) barbarous in the extreme, and murdering the immortal navigator who first discovered and blessed them with some elements of civilization. But now, under the teaching and stimulants of commerce, — transporting thither, as everywhere else over the whole habitable globe, the new sense of duty inspired by the religion of the Cross,— they are advanced somewhat in letters, agriculture, and the arts, as well as engaging considerably in commerce itself.

Another influence of free commerce on the education of a people has been to confer increased value on all other kinds of labor, and thus develop more mental activity and vigor, as well as carefulness, toil and perseverance, in their pursuit. Thus, one nation may be more agricultural, or more manufacturing, but it is commerce either from abroad or at home which alone can secure a high degree of prosperity to either of those great branches of industry. For by that they are principally stimulated and increased so as to furnish the chief materials for trade, as that alone gives to those materials, when beyond what the meagre necessities of life demand, their principal value. It thus encourages their extensive production,— thus animates the mind to new discoveries and useful inventions for their progress. Destroy commerce, and most of what now polishes, adorns, or enriches, as well as enlightens the world, would degenerate into mere exertion for daily existence. Without its talismanic power, the plough would almost sleep in the furrow, the shuttle in the loom. The labor-saving machine would be inanimate, and as useless as the mighty pillar of stone in its native quarry, before moulded, under the powers of art, into the splendid edifice, the colossal bridge, the lofty aqueduct, or the heroic column. And even the wondrous machinery of steam would be dead wood and iron, uneducated by the stimulants of commerce to be almost instinct with life, and destined probably to revolutionize the world. There might, to be sure, without commerce, be some separate pieces of the vast chain of civilization, but no connecting link, to impart strength and usefulness to the whole. Man would, of course, still exist, but he would rather vegetate than live. He would resemble the oyster more than that glorious being akin to angels, and described by Shakspeare as "so noble in reason" and so "infinite in faculties." The mind, in such a torpid, uneducated, unexcited, unrepaired condition, as exists without commerce, is like a house without inhabitants, or a stream studded with busy manufactories become abandoned, and

thus ere long converted into desolate ruins and stagnant pools. The intellect deteriorates, as the thronged city when deserted and unvisited by the hum of commerce. Its streets soon become covered with grass, and even forests; its market-places choked up with rubbish; its warehouses crumbled under cobwebs and moss into mouldering dust, and, in time, through mere abandonment, scarcely one stone left on another of its gorgeous mansions, any more than if some Attila had passed over them the ploughshare of Vandal conquest.

How many men, in more advanced life, become in this way, by mere inaction, the ruined Thebes and Balbecs of what they once were! their minds, by neglect alone, a wilderness that has uprooted everything beautiful or great. They seem full of mutilated statuary, fallen temples, overturned walls, like the mysterious sites of Copan or Uxmal in the central portions of our own continent.

Usefully there may, perhaps, be some cloistered seclusion for religious meditation, or solitude for literary researches and philosophical experiment, when those are thus pursued, not in torpor, but animated by motives the most ardent, and encouraged by eager intentions of maturing what will prove good; and the results are, ere long, to be ushered to an applauding world, the more perfect, as less interrupted by other avocations. But, as a general rule, shut up a hermit in his cell, or a victim of state in some Bastile, and allow to neither books, companions, or employment, and, the process of education thus suspended, and both of them virtually without intellectual commerce, they would not merely halt in improvement, but degenerate, and, ere long, lose even the power of speech itself, or talk an unintelligible tongue. Indeed, without regard to peculiar exceptions, inactive seclusion in man, or a non-intercourse with his race, leads to death. It is its symbol and companion, as well as cause. "By ceaseless action all that is exists." The commercial spirit does most towards this, because it is the most restless, vivifying, adventurous, and busy, of any which agitates society. Commercial intercourse, also, obliterates prejudices, as well as furnishes new suggestions and excitements, new longings and desires. Collision stimulates. They all prevent mould and moth, as well as rust. Besides this, commerce is both ever growing and ever improving. We often see that the exercise of one faculty, one sense, or one limb, increases its activity and power. So the public mind, as a whole, in any country, when more awakened and exercised by a series of new objects or examples in commerce, augments in freshness and ardor, no less than vigor and keenness, till the wider diffusion and higher perfection of knowledge among all are produced, and in turn produce a people distinguished in every quarter of the globe, and push forward a few to such exalted acquirements as to become statesmen, lawgivers and philosophers, little below demi-gods in history and power. Men are thus educated to be liberal, likewise, as well as elevated. Novel and bold opinions in politics or religion soon cease to be contraband articles, in the enlarged intercourse between

nations. Restrictions on efforts by others, or on fair competition of any kind, are gradually prostrated.

Prohibitory laws as to trade, colonial vassalage in business, severe penalties against free enterprise and free industry, onerous taxes on burthens on either exports or imports, harshness to foreigners, Chinese exclusion, barbarous prejudices against strangers,— all are in time softened down, and must be dispelled by the magic wand of commerce. If luxury or voluptuous manners are sometimes promoted by it, which is not improbable, it is only the occasional evil, often inseparable from the permanent good; and injures it little more than the spots on the face of the sun obscure its light to us, or lessen its refulgent glories to the whole solar system.

How greatly the influence of commerce, in this and many other respects, is to be extended by the use of steam, is an enigma which time only can solve,

In the "art of all arts," that of printing, its improvements, bearing so closely on education, may quite equal, in time, the wonderful influence of the great discovery of printing itself,— a discovery which, thus aided, is destined more than any other to become a safeguard to prevent the world again, in any region, from re-barbarizing. It will probably save from a second destruction much of history, many arts — chemistry, and perhaps steam itself, which may once have been understood, and disappeared with those learned and priestly orders with whom knowledge of all kinds formerly existed in the greatest perfection. Some of the sciences, even with them, were mysterious, and may never be developed again, but by new inventions or difficult solutions of what is concealed under hieroglyphics, painting and sculpture. But, if general education, on all practical subjects, had, in antiquity, been aided by the multiplying and preserving power of the press, strengthened, as it now is, by commerce and steam, though it still might have been possible for ambition to have desolated a Palmyra or Palenque, and transferred the seat of empire from Carthage to Rome, or Tyre to Alexandria, yet it would not have been possible to extirpate centuries of history, with numerous arts, nor sink the discovery and peopling of new continents into a fable, or veil them, and many other matters of intense interest as to the progress and origin of our race, in darkness yet impenetrable. To destroy, at this time, the records of any improvements and glories, as they are so universally diffused and variously preserved, we must destroy every civilized people, and all the countless printed memorials of mankind.

I would next ask, in remedying some of the defects as to intelligence in the education of the many, for more practical objects and tendencies in all our efforts. This would increase their efficiency, and hasten rapidly the reformation and advancement of the masses.

Commerce, whose influence we have just been considering, possesses more of this character than books. But, beside the aid of that in a practical view, it is important to give to books also, and to instruction

of every kind, as well as all mental occupations, a stronger direction towards what may be immediately useful in the scenes of real life. These results are to be kept more steadily in sight, rather than what is abstract, or only embellishment.

This conviction does not arise from a belief that ornamental literature or abstruse researches are useless. On the contrary, refinement and polish have their value in proper places, and for proper purposes, and reasoning like Newton's or Watt's can sometimes make discoveries in science the most beneficial. But the middling and laboring classes, who constitute an immense majority of our population, can possess very little leisure beyond the application of important truths to the more urgent wants of daily business. Let those truths, then, be rendered accessible to all, and in language the most pure and plain to all; but seek not to have all engrossed in fathoming difficult questions, or polishing style and manners. Scientific discoveries must be made more familiar; lyceums and institutes be multiplied, and most assiduously labor for practical ends; and, indeed, nothing valuable in nature or art be known, which shall exist entirely in vain for the masses. But let the fruit be presented to them without the shell, and let all be open, direct, clear, and lucid, if possible, to the humblest intellect. Thus you give useful conclusions to those who have not time to strip off the husk, and comprehend causes, and processes, or details; and thus all kinds of knowledge will be made to minister in some degree to the practical improvement of all; and the reproaches cast on ornamental, as well as abstruse studies, will in no respect be deserved. Life, then, will seldomer be spent in Utopian dreams, or the chase of mere bubbles. Nor will the learning of ages be buried in mystic symbols, or be banished from active pursuits, and entombed in cloisters.

By practical objects, I do not mean the mere accumulation of food and clothing. So far from it, the cultivation of the mind and heart for moral and social enjoyment can hardly be deemed secondary in importance to the securing of subsistence. Without it, existence becomes little beyond naked slavery. Both should be inseparable, as nature and experience show them to be most useful handmaids to each other. Physical labor, to lay the foundation of subsistence; mental labor, to secure it. Physical labor, to increase wealth, and insure health; mental, to guard liberty, sustain equal rights, and embellish life. Both united, make a race of men, rather than dwarfs — vigorous as well as "high-minded men;" and when accompanied by sound moral teaching, — as they should be, — no virtue is too gentle nor any affection too pure, no accomplishment so high nor any loveliness so surpassing, as not to flourish in their company, and even derive new grace from their influence. Why should either of them ever be regarded as derogatory? Even royalty has at times considered labor a royal virtue.

Without stopping to enumerate, in the highest ranks, many eminent examples of even manual toil, which have adorned both ancient and

modern history, from Cincinnatus at his plough to Peter the Great in his workshop, it may be observed generally, that no efforts should be spared, by those possessing sound intelligence and true moral courage, to make physical labor, especially among a people like ours, be regarded, as it really is, honorable no less than useful. The "lords of the soil" are with us real sovereigns, in worth as well as political power. They have been called "the true nobility of God." They certainly, as a class, yield in morals, and in advantages bestowed, to no lords of stars and garters; and the latter everywhere must learn to pay to all honest toil due homage.

Instead of a morbid aversion, dislike or neglect of it, they will, if enlightened, seek to elevate, rather than depress it; to make it both deserve and possess a more equal rank; to refine its tastes; to combine science more with its pursuits, and impart the true dignity of feeling which belongs to the independence and usefulness of its position. It is one of the characteristics of the present age, that the working classes are becoming, as they should be, more conscious of their power; and when it is wisely exerted, as this increased and better instruction will make easier and more probable, well may they be encouraged to feel proud of the benefits they confer on society, as its foundation stone. Hence, far-seeing prudence will never fail in all possible modes to enlarge their intellectual vision, and purify their tastes. Industry in all, as well as them, should be rendered more attractive by additional rewards associated with it; and, in fine, all be harmonized better, by levelling more,— though not through pulling down, but by raising up in intelligence, manners and morals, what otherwise might be low.

Thus the whole can be benefited, and may be enabled to escape scorn or neglect merely for occupations that are not in themselves disreputable, but which sprang originally from the nature and destiny of man, and on which, not only the comforts, but even the existence, of most of his race still depend.

I will not enter here into the details of that kind of primary education which may best promote the principle of uniting manual and mental labor, so as to increase most the energies and usefulness of a community like ours. Many plans have been devised to advance this object, and to impart a more practical turn to all kinds of instruction, from Pestalozzi's system down to Partridge's, and even more recent establishments. But, on this occasion, I can advert only to the general objects to be attained, and the general modes of proceeding. In connection with these, it affords me pleasure to notice a resolution of the Legislature of my native State, about seven years since, which enforces strongly the views already expressed. The substance of it was, that "while we view it as desirable that a greater proportion of our youth should be nurtured in these nurseries of science (high schools, academies and seminaries of learning), we do hereby recommend to all such institutions to adopt, as far as possible, the manual labor or self-supporting system, uniting bodily vigor and mental

improvement, thereby extending to the poor, as well as the rich, the united advantages of physical and intellectual cultivation." Thus is it you can procure, what the ancients deemed the greatest desideratum, not only the sound and healthy mind, but a sound mind in a sound body,— *mens sana in corpore sano.*

Many of our pale sons, who yearly fly in vain for recovery to the sunny south, with bodies emaciated and constitutions broken by too intense study, would then be rescued in season, and invigorated by occasional labor, for further application and future usefulness.

They would not, and should not, be trained as if designed to become mere boxers or gladiators; but be educated as men, for real practical life, by liberal studies, to be sure, cultivated tastes and useful scientific acquirements, yet intermingled with proper experiments, and such exercises as those at the plough or the work-bench. These would, at one and the same time, harden the constitution, recreate, as well as strengthen, for more vigorous study, — instruct the mind in much of both nature and art, and qualify the individual to procure an honest livelihood, by manual labor, if ever becoming either necessary or agreeable. A few weeks since, I met with a mere temporary seminary among the mountains in the interior of New Hampshire, which evinced not only the increasing desire among the people at large to improve their minds, but the enterprise and vigor, as well as physical labor, with which they voluntarily seek it. Not content with what is to be procured at our free schools, located in every district in the smallest town, and unable, under a cold sky and on a hard soil, to buy, in all cases, the higher information so well communicated at our numerous endowed academies, something more than one hundred and twenty pupils were there collected together. They came mostly from the farm-houses within a circle of ten or twenty miles. They consisted of nearly equal proportions of the two sexes, and were more advanced in life than is usual at academies; and, having procured an able instructor, who had been publicly educated, they were diligently profiting by his lectures and teaching in school hours. Out of these hours, they were working, in some cases, towards defraying the expenses of their board. In other cases, they hired rooms at a low rate, in the neighboring village, brought the raw materials from home for food, and prepared them themselves, with a prudence, perseverance, shrewdness and energy, that must, ere long, push many of them into great respectability at home, or wealth and honor at a distance. It is true that instances of this kind do not in their exterior possess much of poetry or romance to commend them; nor do they sound attractively to ears of mere fashion; nor tend to gratify and enchant fastidious taste, or fascinate the fancy. But they often contain great depth of feeling, below the surface; and, at times, are accompanied by all the genuine enthusiasm of genius, by chivalrous sacrifices, and efforts truly heroic. They disclose the right spirit, to be encouraged for the improvement of mankind at large. These humbler scenes are, likewise, most open

to exertion, and will best reward it. Their inmates, duly encouraged and animated, infuse new blood into the body politic, and help to avert the leprosy and gangrene of sloth, effeminacy, luxury, and putrefying excesses of every kind. Their influences are to make the sleeping awake, — the dead live.

Seminaries of this character are better than gymnasiums, because they more resemble real life in miniature. They sharpen mental faculties, as well as preserve health. They combine action and thinking, practice and theory, and, at the same time, make persons think, reason and understand, for practical use, rather than feed the imagination or load the memory. They exhibit more students who feel, as all ought to feel, the importance of a thorough mastery of what they learn; and this is one of the secrets why they voluntarily make such great sacrifices and efforts to improve. Such a motive is electrifying. They labor *con amore;* are in earnest, and even vehement, rather than toiling at irksome tasks, or seeking some temporary relief from the ennui of abundance and idleness. Such renovating measures are also the more to be encouraged, they accord so well with the practical condition of our state of society. Instead of long and uninterrupted hereditary rank, or great entailed riches, descending through a thousand generations, most of our men in office and affluence rise to distinction from the abodes of manual labor; and they, or their children, often descend again to the toils of agriculture, or of a profession. Our peculiar form of government, opening the avenue of the highest honors to all, — our peculiar laws, admitting all equally to acquire and transmit property, — protecting the character and rights of all to a like extent, — excluding none from professions, however respectable, pursuits, however difficult, or citizenship, however valuable, — all these combine with the habits and modes of thinking most prevalent among us, to give a more practical turn to exertion in everything, and to require it, especially in most of our public objects and public efforts.

If, a century ago, it was a just remark, in a monarchy, that "honor and shame from no condition rise," how much more so is it now and here, amidst the prostration of all ranks, and the thousand tendencies in our political constitutions, our legislation, social habits, and systems of education, to elevate and ennoble every one in every sphere who may deserve it! Some of this policy came hither with our pilgrim fathers. They brought the moral strength and martyr zeal, with decision of character and courage for any species of danger; and with these, the iron will to persevere through hosts of difficulties. Besides being thus braced for the severest trials, they possessed enterprise unbounded, as well as a self-teaching and enlightening spirit, strong with assurance of their future prosperous fortunes. But we have had two hundred years more of experience to profit by; ten generations more of the working of free schools and free principles, to develop their excellences; new revolutions, not only in

government, but in modes of thinking and acting among the masses, and a larger liberty and bolder impulses given to the rights of man everywhere. Society here, as a whole, is onward in its march. The necessaries of life are much more ample. Its comforts are wider diffused. Knowledge pervades more the whole, and in a higher degree. Public opinion has a loftier tone, — is less craven or fawning, and is deeper and wider felt in both literature and science, no less than politics. Morals, if no purer than among the Puritans, in some classes, are better in others; and all are less stern in manners, less exclusive or bigoted, and more earnestly coöperating together in the great ameliorating movements of the age.

The people at large, if less self-denying, cower less to persons in authority, are more intrepid for equal rights, rank higher individually, and in religious toleration have taken vast strides. Men are not now to be convinced by penal laws, by tests, disfranchisement, or transportation. Much less are they to be enlightened by the torch, converted by inquisitions, or satisfied of the truth by dungeons and the bayonet. Yet it must be confessed, that though this age has, by other more rational courses in education, become an age of great practical progress, we do not anticipate early perfection anywhere, but rather that this progress will, by greater care in education, be more steady, if not more rapid; and will accomplish much more, in the history of the human race, in coming time, to gladden the hopes of sound philosophy, as well as far-reaching statesmanship and Christian faith.

How much oftener, aided by this practical policy and more enlightened condition of the masses, may the peasant boy from the mountains become the city millionaire! How much easier, under such a system of universal education, universal freedom, and universal privileges, may even the orphan asylum of the populous mart of commerce send out, from among its forsaken inmates, one thus rescued from ignorance, and ignominy, and want, who is destined to wear the ermine of justice in the highest judicial tribunals of the land! Or the drayman see his son command the "applause of listening senates," or so worthily conduct himself in various ways as to "read his history in a nation's eyes!" But the most humble and downtrodden in rank, even when remaining in their original occupations, undeserted, if followed with more practical intelligence and zeal — what influence and respectability will at times repay their persevering care and integrity! Why? Because it is the man, if talented, aspiring, improving, — it is the immortal man, and not his birth or pursuit, — which often imparts dignity to all stations, and, like Epaminondas at Thebes, makes an employment before despised an object of future and enviable ambition. The smith at the anvil is this man, as much as the monarch on his throne. He has the senses, intellect, the rights, the passions, the sympathies, the soul, as well as the wants, of other human beings. In and of himself, he is second only to God or angels. The higher, then, the more practically, he is informed and educated, as

an individual, the higher must be the power of many such, united in society or government. In a political view, then, as well as social, how vastly important it thus becomes to remedy any defect in the instruction of the masses! How wise to excite their most ardent exertions, and develop fully all their faculties; and, above even this, to furnish good and ample intelligence to guide and control them!

In this way, many rash experiments in trade would have been averted, or turned to better account,—many unprofitable undertakings in the arts avoided, — many reckless speculations in manufactures rendered more thrifty, if not shunned. How much of the insubordination, as well as aggressions, which have afflicted society, could also thus have been prevented; how many ill-digested schemes in legislation better matured; how many ruinous attempts in measures connected with political economy stifled!

Let the press, then, in its various ramifications, — schools of all kinds, lectures, commerce, practical experiments, — let reasoning and action of every description, be concentrated to improve more the masses; and then, certainly, much can, in time, be accomplished towards remedying those defects in education which our peculiar forms of government and condition of society tend to produce; and which, let me solemnly warn you, unless due exertion is used to the contrary, they will most assuredly perpetuate.

But when we have done all which is possible, in these modes, to communicate more and better information, there is another auxiliary remedy for those defects, which is entitled to the most considerate attention. It is discipline, — it is stricter training, — it is more system in action, as well as thought. It is to form the custom to do what we approve, — to enforce habitually in conduct what we commend in theory. It is not merely to inform well, but to act well, and make others act well. In brief, it is practice, no less than preaching.

Knowing what is right is, to be sure, one step, and a very important one, towards doing right. There is a beauty in truth, in justice and virtue, — in fine, a loveliness in excellence of all kinds, — which, when understood and clearly seen, attracts most beholders. First comes approbation, then esteem, next admiration, and lastly imitation. In a like manner, ignorance and wrong are often repulsive. Indeed, vice is, at times,

> "a monster of such hideous mien,
> As, to be hated, needs but to be seen."

Exceptions, however, occur. Delusions prevail, which knowledge alone is occasionally weak to resist, or slow to overcome, because the error is often disguised, and the poisonous opinion gilded, while man, at the same time, is not only proverbially frail, but surrounded with every kind of temptation. He wants, therefore, no less the firm-

ness and habit to pursue the right, than the intelligence to distinguish it from error. Such a habit is the faithful Achates to sound principle, —its strongest friend. When well formed, it furnishes almost a new faculty. Our fathers well understood this; and much more, I fear, than we, venerated what Cowper terms "a sage called Discipline." Then he dwelt more, not only in schools and colleges, but at the domestic fireside. There was more personal attention by superiors and the aged, as well as more reverence, affection and obedience, by the young and the dependent. Indulgence, when permitted, was then not so irregular, but guided more by rules and principles. It was less the child of impulse, because regulated by discipline. No "palsy struck his arm," so that "study languished, emulation slept, and virtue fled." On the contrary, discipline was encouraged more, not only in those places, but in halls of justice,—more in legislative assemblies, more in armies and navies, and more, it is believed, in society at large. To be sure, it may be less needed where intelligence is greater and growing. But it is useful everywhere, and experience shows that, in this country, there exists more danger from increased laxity than from any excess of austerity. Under institutions like ours, the weak side will always be too little of system or strictness.

As another illustration on this topic, it may be observed that children left exclusively to a mother's care do, almost to a proverb, become more eminent. Why is this, but for a discipline more anxious, careful, vigilant, earnest and persevering? — for an example more pure, and more constantly before them for imitation; besides, I admit, more affectionately giving them, for guidance, line upon line, and precept upon precept?

But education, as at first remarked, not being confined to infancy and youth, nor to the mind alone, discipline should be extended to the whole life, and to the regulation of the tastes, the affections, the soul, and, indeed, of the whole man. All are to be watched over and controlled. It is this more extensive training, with late as well as early, and rigid as well as constant practice, in what is taught, which, wherever introduced, proves so beneficial in aid of letters, and tends so strongly to unite "the judging head" with "the feeling heart." It is, in youth, not the Spartan roughness and Spartan severity, but the tender caution, anxious, unslumbering solicitude, and care-worn assiduity, of parental affection, superadded to all that is done in the school-room. It is, in adult life, the embryo republic in daily operation in the affairs of every district, militia company, and town-meeting.

These last much exceed in appropriate training, for all spheres of trial, the public assemblies of Athens, where the people listened only in thousands; and less tranquilly, from their numbers, except to accomplished orators, like Demosthenes, thundering from the *bema* against Philip, — or, in Rome, still more tumultuously, except to such speakers as the Gracchi, when from the rostrum they assailed patri-

cian encroachments, "in thoughts that breathe and words that burn." Our primary meetings are generally much smaller than theirs, and the persons who take a leading part in the business are, at the same time, far more numerous. This tends to promote intelligence and practice, as well as order, peace and obedience. Thus it is, that over most of our country, the assembling of jurors, county courts, and conventions of all kinds, literary and religious, as well as political, no less than of school districts, militia companies, and towns, in particular sections, are nurseries of both information and discipline. It is likewise conformity to laws and rules at the polls in elections, and, higher still, in our legislative assemblies, that is calculated to assist us. In short, it is the habit, daily, of individual self-control, and public self-government. It is the knowledge and practice of ruling, no less than submitting; and thus, self-respect is also increased, the dignity of our nature more highly appreciated, and the public taste elevated.

This kind of education produces, likewise, a more fixed habit of submission to the reign of the law. What can be so vital here, where we justly exult in a government of laws? Discipline obeys, even where it cannot always esteem or respect the agents and ministers of the law. Nor need impatience ever be evinced at legal restraints; for, in submission to them, there is implied neither humiliation nor reproach. True, it is obedience, but it is obedience to what should be supreme over all, — to law, which forms and sustains the universe, — law, which governs angels, as well as men. When we violate such obligations, and those other laws which we ourselves have helped to enact for ourselves, insubordination evinces not only a want of discipline, but a breach of compact. It is recantation, disloyalty, dishonor, wickedness. It is not resistance to aggression, or injustice, lawless force, or usurpation and tyranny; for that kind of resistance is rightful — it becomes a duty, as well as being patriotism. But the vice or defect consists in yielding to false promptings of interest, to seductive passion or fanatical feeling; and then, under their undisciplined impulses, disobeying not merely what is wrong, but the lessons of experience, and the dictates of reason, no less than the requirements of our own legislation. These impulses, however, can often be controlled, if not subdued, by firmer habits, always to investigate before action, and then to do what the scrutiny shows to be just and honorable. Thus we form a custom of pursuing another and a safer guide. The thoughtless and indiscriminating may stigmatize this kind of discipline as wearing a yoke, but it is a yoke of our own making. It is the yoke of reason, the collar of moral power, and not of slavish or conquered weakness. Freedom from such a yoke may be called liberty, but it is only licentiousness. It is the rule of rude violence, of unrestrained passion. We select for a master childish anger, grovelling appetite, or ignorant and sudden impulse. Such a master soon becomes a tyrant, — the worst of tyrants; and we, by such a course, soon become slaves, — the most menial of slaves. It is unworthy an

accountable being, not to use his noble and disciplined faculties of reason, that safe mentor, instead of falling a prey, in every exigency, to infuriate, blind and bestial influences. It is derogatory to the American citizen, whether on the Atlantic or the Mississippi, and disreputable to our republican institutions, that pretensions should be made to order and right, and yet that we should govern, or be governed by, any considerations in defiance of the laws.

In such cases of individual vengeance, or of Lynch outrages on a larger scale, we may, it is conceded, select for punishment, in most cases, real offenders; but, at the same time, by prostrating the discipline and the forms of the laws, we destroy all security for its uniform, steady, and equal administration, as well as all protection for unpopular and feeble innocence. The laws thus become a mockery; magistrates are unnecessary, hateful, or powerless; and the social compact itself is not only violated, but degraded.

This we know,—that, without judicial hearing, a popular movement under irregular impulses would, at times, as recklessly apply the midnight torch to the secluded dwelling of a sisterhood of blameless nuns, as to a den of gamblers, counterfeiters and horse-thieves, or the workshop of a libellous printing-press.

Rights held by any such tenure — or, indeed, by any tenure but a disciplined conformity to the laws — cease, therefore, in practice, to be rights, and become mere casual privileges, from passion, violence, or rude power. Such a condition, our intelligence, moral sense, and independence, must all loathe and spurn. By such irregular outbreaks, also, extending to political excitements, governments themselves are in time changed, or entirely destroyed. Instigated frequently, if not headed, by the interest or ambition of rival leaders, and united in more readily by a populace as more ignorant and more accustomed to tumult, outbreaks of that character gradually broke down most of the republics of antiquity; and though the general violations of their laws and constitutions happened at once only in particular regions, or on great occasions, or in respect to distinguished citizens, yet it poisoned slowly the whole blood in the system, and evinced a growing want of that firm discipline in the affairs of life, and of that sacred regard for uniformity and inflexibility in the administration of justice, which lie at the root of all order, stability, and public safety. A canker thus preyed at the heart; public liberty, as well as public security, was undermined; and all the Phocions and Catos could not save their falling states from anarchy and despotism, because they failed to remedy so fatal a defect in the education and habits of the community at large.

Under our boasted republic, then, let republican intelligence and republican discipline be so perfected as to permit no stain to be cast on republican justice; and let them make law and order always reign, "though the heavens fall!"

Pardon me if I detain you a few moments longer, by adverting to

only one other general aid to remedy existing defects in education among us. It is to be derived from moral and religious considerations. We must fortify both of the great bulwarks against error which exist in increased intelligence and increased discipline, by calling more to their succor the true spirit of Christian principle. The vigorous reinforcement of that will go far to save us from the most imminent dangers incident to our nature and condition. The strength of that, added to the others, will make us stand, when all else falls. It furnishes new motives, as well as new power, for a vigilant performance of the whole of the various duties of life. It has been said that "religion is the foundation of all education." It assuredly is one of its chief supports. Christianity is also the religion and friend of the people at large, and not of the higher classes merely. It is a gospel of equal rights. It is favorable to republicanism on the broadest scale; and, though not, in my view, the origin of it, may perhaps be commissioned to exert a more efficient power in its preservation and purity than all other means combined. It commenced among carpenters and fishermen, and has ever since lived among, and aided to purify, the most lowly, as well as the more lofty. It looks to the equality of the soul in all; and wherever that soul warms, or animates and ennobles, a human being, it seeks to lift up, rather than depress; to civilize, and not roughen; to reform, improve and elevate. In its eye, the prince and the cottager, originally, are of like importance, as both alike are urged by it to excellence in their respective spheres, and both alike are held accountable by it to duty. It regards duty, and duty alone, above everything else — educates all to it, in every station, and every employment. At the plough or the bar, at the anvil, workshop or counter, on the vessel's deck, no less than in the forum, the pulpit, and the hall of legislation, one principle with it is alone unfailing under every reverse, and often can alone conduct us to true results. It is not satisfied with any spasmodic or intermittent morality, confined to particular days, particular subjects, or particular classes; but it requires a clear, steady, unbroken current of truth and honesty, in all persons, as well as on all occasions and subjects. It is a living fountain of the most useful, no less than the most holy principles.

Its whole energies being devoted to do and to advise what will seem just in eternity, no less than in time, it happens often, that when information and discipline fail, the spirit of the Gospel of Peace will bring healing in its wings — will subdue the violence of passion, check the outrages of appetite, and subject every irregular impulse to the dominion of principle and order. It has survived the wreck of every mere human institution, during the lapse of two thousand years. It makes no compromise with vice; it tolerates no neglect of time or means. It deals never in oracular responses, doubtful and deceiving, nor scatters ambiguous voices among the people. But it is plain, direct, open, coming from the heart; and, in turn, reaching the heart of the most humble.

Nor has it ever been selfish or exclusive. Its deeds have looked rather to all nations and all times, than to the present moment or a few; and their authors have thus often become no less immortal than the greatest Pagan benefactors of any age. Indeed, under every system of polity and education, this public spirit has always proved the most direct path to glory, as well as usefulness. Hence those, for instance, who sought by the pyramids to erect tombs for themselves alone, have long since faded from history, — while the monuments generously formed for the benefit of the people at large, such as the Flaminian highways, and the Institutes of Justinian, are fresh, after the lapse of ages, in embalming the memory of their authors. Equally fresh is the memory of those self-devoting Apostles, who originally taught Christianity to Gentile as well as Jew; and of the Howards and Wilberforces of later times, engrossed in benevolent enterprises for the world, while millions of others, occupied only with themselves, have lived and died as unknown as the animalculæ whose remains form the chalk cliff, or the coral insects whose houses have become their tombs in the darkest caverns of the ocean.

Christianity has inculcated, also, in every age since its birth, support to the civil magistrate. At the same time, it has so helped to educate man as to break a thousand tyrannous chains of the mind, and prostrate many barriers to social improvement; and none greater than what formerly stood in the way of advancing the influence of woman in society to its present just and lovely height. I speak not, on this occasion, of different forms of faith or belief. I refer merely to the useful and reforming spirit of Christian principle,—its general tendency to good, under all ceremonies, persuasions, and even abuses. In the midst of disputations and polemical controversies, when snappish self-conceit or theological hatred has persecuted most, and heresies of all kinds have proved bitterest, the true fire has never become entirely extinguished. From the smothered embers it has in time burst forth, and burned brightly in educating and civilizing mankind. It has been fervid to enlighten and ameliorate, has tranquillized the most jarring differences, sought from discord in sects to elicit concord in great ends, and, with one of the wisest of the fathers, though exhorting unity in those things which are essential, has always in its true spirit encouraged "in non-essentials liberty, and in all things charity."

Christianity, if properly invoked, can continue, in various ways, to aid our systems of education, without improperly uniting church and state, or assuming the garb of proselytism. Armed only with its own inherent celestial influences, its sanctions will, under all denominations, add force to the precepts of the school-books, impress deeper and more solemnly the teacher's advice, and, to the end of time, strengthen the lawgiver's decree. When no human power can effectually uphold order, they will often bridle the tongue, alarm the heart, and stay the blow of revenge. In fine, the tendency of all its principles is peaceful. But, though unoffending, it is still inflexible for the

right; though looking to heavenly rewards and hopes more than to earth, it is still careful of its stewardship here; improving in all things, and circumnavigating the globe, if necessary, in works of charity and well-doing.

Again, it is useful to check, aid and elevate rulers, and influence governments as well as individuals. Rulers can be a terror to evil-doers only by following its Divine injunctions themselves. Its promises and glories are constantly aloft, before and around them, for encouragement and support, under high responsibilities, the severest public labor, perplexities without end, temptations innumerable, and dangers at times most appalling. While, on the contrary, how often do its denunciations deter from evil! They often rise to memory, like a seer of olden times, or some inspired prophet, commissioned as the messenger of Deity; and admonish effectually against the aspirations of lawless ambition, or any outbreaks of personal anger, and private envy, disturbing the course of public justice, or the public peace. Wars and usurpations, as well as minor aggressions, are thus frequently hushed. Some luxurious despot is made to tremble on his usurped throne, or shudder amidst the riot and debauchery of the banquet; or some unscrupulous demagogue is haunted by terrific warning in his dreams for power, or turned pale and conscience-smitten in the midway of some corrupt enterprise.

In this manner whole governments feel the benefits of the existence of Christian principle. These they feel, likewise, through the people, as well as rulers; and more especially under institutions like ours, where the people compose the government, as sands form the mountain, and drops the ocean. Their feelings, opinions, and actions, come from every hill and valley, however remote or secluded, and help to shape and direct the public course. They give tone to the common voice, like the unseen winds; and, gathering from all directions, they form in time, for good or evil, the general will, as well as the general character.

In fine, having enlisted the true spirit of Christianity to assist the efforts of increased intelligence and stricter discipline to improve education among us, most is done, I believe, which can be, to remedy existing imperfections. In this way, the heart, the affections and the soul, become engaged, as well as the head. Love of friends, love of country, love of excellence of all kinds, love of God, unite; and the tenderest impulses of our nature coöperate with the sternest. The whole man thus concentrating all his energies and tastes, his faculties and enthusiasm, on improvement, if defects in education cannot in this way be cured, and his condition advanced, that result must, I fear, be hopeless. But, as encouragement, history is full of evidence that this desirable result has often been thus promoted; and, indeed, that society has seldom been revolutionized permanently and beneficially, except by the progress of such measures in reforming and elevating the people at large.

You must reach the masses. The progress, I concede, is usually slow. In most cases, it changes the world almost as insensibly as continents are worn away, or raised above the ocean, by gradual attrition and accretion. But, by the constant use of means like these, a change happens, however long baffled or doubtful; the improvement becomes sure, though slow; and we can all, in one way or another, contribute something to urge forward the salutary movement. Granting that all nations, like all individuals, are doomed to old age; yet we can thus help to make both secure of a green old age, and of a more useful, honorable and glorious career, as well as close. Even a word, fitly spoken, in such a cause, will in time tell, though uttered in the smallest circle. Every act well done, though single, may become the parent of a numerous progeny, by attracting imitation, through the esteem and admiration of all who witness it. Every benevolent Man of Ross, however circumscribed in his sphere, will be a co-laborer in this great vineyard; and moderate or modest as may be the plan on which he confers benefits, if they are public in their scope, and improving in character, they count something; and will raise up, in succession, a host of admirers and imitators, in every age and country. They make a wave, which, though small, continues to ripple some, and to agitate society, more or less, over the whole ocean of future time. Thus will all, as they can and should, confer some benefit on each other. If one — the least able — plant but a single tree to shade the worshippers at a village church, and thus render the consecrated spot more attractive and healthy, he becomes, to a certain extent, a public benefactor. One, more able, can plant a green or mall, to recreate innocently the young, delight the weary, or adorn the borders of a crowded city. Another may open or ornament a public fountain; another, more competent, or more generous, found a hospital for the destitute; another, a house of refuge for the widow and fatherless; another, endow a free school; another, establish professorships for lectures on useful topics; another, help to form a charitable society; another, propose a good law, commence a sound moral reform, or devote his life to some great improvement; and another, like Smithson, create a fund for the noble end of diffusing knowledge among mankind; and, if more promising to the cause, make, as in his case, even a distant nation his trustee. Every contributor, in any of these modes, humble or high, helps, in the cause of substantial education and improvement, to swell the current of usefulness. "The world moves," said Galileo; and, in despite of persecution and dungeons, it did move; — and the moral, literary and political world moves also; and will, by your efforts, and of those like you, continue to move with such rapidity and force as never to be stopped again in its onward career.

In the circle of blessings, this course of contributing something, however little, to give to everything a right and vigorous impulse, and to derive from everything moral as well as mental improvement, is open before and around us daily, and even hourly, and in the

smallest as well as loftiest objects. Thus it has with justice, no less than beauty, been said:

> "There is religion in a flower;
> Its still small voice is as the voice of conscience.
> Mountains and oceans, planets, suns, and systems,
> Bear not the impress of Almighty power
> In characters more legible than those
> Which he has written on the tiniest flower,
> Whose light bell bends beneath the dew-drop's weight."

So is there religion in a crystal or a shell. They all speak to us as living miracles, when our minds are duly awakened to their wonders. So the fall of only the autumnal leaf is sufficient to point a moral. It can, with the observing husbandman, furnish the foundation of a most beneficial exhortation to his sons; as the fall of an apple suggested once, to the greatest of mathematicians and astronomers, a hint for the theory of gravitation for the whole planetary system. A spark from the forge may be converted by the artisan into illustration both philosophical and moral, to instruct his apprentices amidst their useful toil. The storm, as well as the calm, are full of lessons to the seaman, no less than the merchant. The revolutions of power preach, trumpet-tongued, to the politician and statesman.

The town and the country, night and day, walking and repose, books and men, all abound, when explored wisely, in admirable instruction, warning, and reproof — in exhortation, hope, and encouragement. And thus the active, well-disposed mind can always teach and be taught, improve others and be itself improved, and, in short find

> "tongues in trees,
> Sermons in stones, and good in everything."

ON PROGRESS.*

We hear much of progress in society. What is it, when rightly explained? And what are the facts and arguments which tend to verify it as to the past, or hold out strong hopes of its continuance hereafter?

My object, on this occasion, is briefly to answer these inquiries; but not so much with the expectation of presenting many original views, as to arrange in new forms, and, if possible, with some instruction, a few reflections calculated to strengthen the opinion in behalf of progress. This, it will be seen, is an object of no little importance, when we remember that an opinion of this kind has been much controverted; but, if proved to be well founded, must be full of rich promises for the future, and thus inspire society with hopes very encouraging to the improvement and happiness of most of the human family.

It would be difficult for any one to maintain that man, as an individual, has not always been capable of advancement. Manifestly, he can grow in strength, virtue, knowledge, as he grows in age, and as the acorn swells into an oak, or the egg into an eagle. It is equally clear, that if one can so improve, many can; and many, united in society or government, have, in fact, seen a like career with individuals, and enlarged in means and wealth, in numbers, arts and literature, power and glory of all kinds, till, from the smallest beginnings, they loom up as mighty empires.

In many cases have nations increased in this way, like the huntsmen twins on the banks of the Tiber, till most of the millions of the civilized world worshipped at their feet. Or, to give an illustration nearer home, expanding from a few pilgrims, till their descendants seem likely to overshadow a continent.

As little can it be doubted that particular instruments, arts and sciences, have grown in usefulness, and been more and more perfected, after their first appearance. Thus, the mariner's needle, now trusted to cross pathless oceans, was once but a piece of magnetized steel, stuck in a straw and left to float on a bowl of water. The quadrant, also, by which the wanderer ascertains his position amidst the desert waste of sea or land, was at first little more than two pieces of wood united at right angles. The loom is still, in some countries, mere sticks driven into the ground, instead of the intricate machinery, suited, as with us, to weave the most beautiful fabrics in every color of the rainbow, and in almost every figure of nature, or of the kaleidoscope, or the richest fancy. At first the plough, too, was only a

* An oration before the Phi Beta Kappa Society of Dartmouth College, 1844.

sharpened stake; and all the marvels of steam were little advanced beyond the tea-kettle and smoke-jack. So, the creations of the painter began in the use of mere charcoal and chalk; while the sculptor is content to labor on weathercocks and ships' heads, long before he is able to chisel the breathing marbles of Greece and Italy, now animated, through a like progress, by our American Greenoughs, Powers and Crawfords. Language, likewise, has probably improved, from a few exclamations of passion, to the admirable systems of inflexion and syntax which distinguish it in some countries. And the forms of government, through many a death struggle, have been advanced in security and equality, till they develop all the beauties of the representative system, and build up those bulwarks of rights, order and justice, among equals, which exist in the cautious checks and balances of modern times. It is thus, over much of the world, that all has changed; and, in my view, has changed for the better — has, from time to time, moved onward, and gilded the prospects of humanity with brighter hopes. But, it will be seen that a more difficult part of the inquiry lies deeper than the progress made by individuals or nations from infancy to manhood. Because, with them, decline or death usually succeeds flourishing maturity; and many contend that a similar course is seen by the arts and sciences, as well as all human attainments — and hence, brilliantly as any of them may at times appear to advance, it is supposed to be in a circle, or merely in returning vibrations, like the pendulum or the tides, rather than constantly forward in some nearer and nearer approach towards perfection.

The question, then, most momentous to society is, whether the world, taken as a whole, and in relation to the whole range of human efforts, has not essentially improved, and is not destined to still further progress? However the fact may be doubted by some, my own belief is, that society heretofore has improved both generally and on particular subjects, and has not yet reached the extreme goal of its onward career. While presenting further considerations in support of these conclusions, it is hardly useful, nor is there time to discuss properly when civilization commenced, whither it soonest spread, nor where, in some respects, it has ranged highest.

For whatever, at an early day, may have been the high distinctions of a few individuals, or the high attainments of many in a few arts, and whatever fluctuations may have since occurred in the condition of society, innumerable as history proves them to have been, it is enough for my present purpose, and in support of my first position, to show that the state of civilization was in most places so low, in distant eras, as to permit great progress to be made since.

Looking for the general proofs of this, they seem to me imbedded in every stone of the whole fabric of society. They are written on much of the earth, also; and, if not on the heavens and all which they contain, they beam out in the progressive knowledge of those mighty bodies which compose the solar system, and the annals of

human life are full of them. Viewing the advancement of man as a species, and not of one individual or nation over another, it is highly probable that his condition, in many respects, has gradually grown better since creation. It is no refutation of this that some empires have perished, their mausoleums even been crumbled to dust, and the ivy again and again clasped their ruins; for they were but parts of a great whole: and if, as in the firmament, some stars and planets should disappear, others break upon the eye, and, with the rest, move forward, and sometimes with increased power and more than renovated beauty. In no mode has the course usual with particular nations been more finely shadowed forth than in Cole's imaginative landscapes; starting first in the rudeness of nature, then maturing to high refinement and grandeur, till, amid the ravages of luxury, time and war, sinking into utter desolation. But none can forget how frequently new nations arise on the ashes of others, and in many things transcend their predecessors, like some of our own western cities springing up, in greater luxuriance and power, on the very mounds of a less civilized race. This is the analogy of nature in other matters. The brutes, such as the horse and ox, individually mature, decline and die. But others succeed, and, by care in their reproduction as well as growth, have been advanced much, both in beauty and strength. So, the hound has been made more fleet, if not more acute; the sheep, with a more golden fleece; while many plants, from noxious weeds or poisons, have been rendered highly medicinal; and others, whether for ornament or food, are well known to have improved, so as to unfold more lovely hues, as well as furnish richer nutriment. Even the earth, as a whole, is supposed to be much more habitable, healthy and productive, than at first; and some of the other planets to have changed, so as better to sustain life for worship to Him whose hand first put them in motion, and continues so wonderfully to hold them in their orbits. Nay, more; as creation itself was not an instantaneous but progressive work, so the long preservation of it was likely to require new developments of power, and to be accompanied by improvements as progressive, if not glorious, as its first formation. Surely, in regard to that portion of it displayed in man, almost the whole philosophy of his existence will be found contained in the idea of his continued progress; and some, it is hoped not groundlessly, suppose that the power of deity will more and more be unfolded by advances in man, not only here and through time, but in the whole universe, and through the endlessness of eternity. It has been suggested, in objection to all this, that many of the human race are still in a stage of almost brutal savageness. But, it must be remembered that the whole number now in that condition, compared with the past, has much diminished; and that commerce and the cross are yearly penetrating more the remotest tribes of barbarians, and pouring arts, religion and improvements, into their darkest recesses.

A different kind of objector has sometimes referred to a state of

nature as the *beau ideal* of life, and at least as having once produced all the enchantments of *a golden age*, never attained in the highest progress since, nor likely to be attained hereafter. It is vain, however, to search for such an age, except on the leaves of poetry or fable; and if Edens or elysiums can ever be approached near, beyond a few rare cases of rustic innocence, it must not be in ages of the past, amidst pastoral exposure and savage suffering,—not in the cold, hunger, nakedness, ignorance and ferocity, of a state of nature,—but where liberty and law, the arts and the securities of organized government, reign, and usually, if not under the highest polish, yet after a cultivated taste prevails, purity of morals, an ample supply of comforts to all, and the enjoyments and advantages attendant on the mind well stored with useful acquirements.

Looking at the records of nations, since becoming authentic, we can discover much, at a glance, that shows the advances, rather than the degeneracy, of modern times, and of civilized conditions in society. As a single example among many, take the present population of France and England. How superior, in most things, to the painted savages found by Cæsar, in their straw and filth, on the banks of the Seine and the Thames! Indeed, how superior now the intelligence and comforts, as well as religion, of all Europe, to what it was when feeding on acorns, clad in skins, offering sacrifices to idols, and no enjoyments of literature, and no blessings of agriculture, commerce and manufactures, known at all, or known above their most degraded condition! to say nothing now of the difference, still more recent and striking, between the present mansions, so full of conveniences, and grace, and civilized life, on many of the splendid bays or beautiful rivers of America, and the miserable wigwams which formerly darkened their borders, and were filled with barbarians, who tomahawked each other, and grovelled in all the debasement of the rankest ignorance and heathenish superstitions! Dwelling no longer on general considerations, if we advert to the particular causes and proofs of the progress made in society, the force of the reasoning on this subject can be seen by some with still greater distinctness.

One of the strongest of these causes is believed to have been Christianity. Little need be said, before an audience like the present, in support of this. For all the intelligent, who believe in the Divine origin of the Gospel, must be satisfied that, unless one of its cardinal objects has failed, it has been actively and widely instrumental in improving the moral condition of mankind. In a gradual manner it is thus leavening the whole earth. It makes even Mahometanism more subdued in the use of its great missionary, the sword. It has stripped the Brahmin of some of his cruel sacrifices; and where it has not yet converted many, its ameliorating influences have not been entirely unfelt, but, in some respects, have reached the palaces of Pekin, as well as the pagodas of India. Without stopping now to particularize many of its reforming influences on society at large where its doctrines

have struck root deepest, I cannot omit to mention the tendency its spirit has exerted to equalize the personal rights and duties of all, and to protect them by strong and eternal sanctions; looking to the mind, the heart and the soul, rather than the rags or purple which may chance to cover them, and trying to reconcile nations, no less than individuals, by teaching them that they are all accountable brethren of one great family. And last, but not least, its elevation of the female sex, in many respects, to the same platform with man; so as, wherever its principles spread, to double the moral force and usefulness of our race, besides softening the asperities, and adding much to all the comforts, graces, and delights, of society. It is well known that another of the causes and proofs of the progress we contend for has been the invention of printing. But it is now alluded to, rather to show that its influences have not been overlooked, than from any necessity to enlarge on what is so obvious. All can readily see how much easier, and hence wider, knowledge has been diffused among the poor, and thus helped to elevate higher a larger portion of the eight or nine hundred millions of the human family. It is manifest that by this chiefly many regions have become instinct with new life. Ideas, principles, arts, comforts and powers, now pervade them, which were before utterly unknown.

But the printed book has enjoyed triumphs peculiarly its own. In the brilliant thought of Victor Hugo, it has, to some extent, supplanted the palace and the temple, diverting much of genius not only from architecture, but the pencil and the chisel. It has likewise cast into the shade the sword, and all the pomp of war.

> "The pen is mightier than the sword;
> It takes a sorcery from the master hand
> To paralyze the Cæsars, and to strike
> The loud earth breathless."

Not only the city, but the rural village, rings with the praises of the popular writers of the day. Their names are as household words amid the hum of the spindle in our busy manufactories. Their works not only reach the academy and college, but visit the distant farm-house, and, by the fleet wings of steam, cross mountains, oceans and continents, almost as quickly as they once crossed counties. In short, they eclipse the power of the orator and minstrel, and reach and rule the masses much wider than ever did a Demosthenes or an Ossian. It would be no very forced view of the subject to consider printing as a galvanic chain between nations, no less than different portions of one people, — the conductor or medium for a like literature, politics, philosophy and religion, as if, in many respects, a single pulse beat through the whole. The immeasurable difference thus existing in favor of the present age over all others, in the facilities both to acquire and propagate valuable knowledge, can be duly appreciated without disparaging antiquity. For, with rightful veneration towards her, as our parent, —

in some things our teacher, and in many a model, — it is no reproach, that others since, with the aid of all her invention and treasures, should have rivalled, and, in several respects, surpassed her. Hence, though Egypt, for instance, once had her learned priesthood, and India was illuminated with letters, yet how little of the light reached below the hill-tops — below the highest in rank! Where was their daily press, fruitful with intelligence, and teeming with arguments and facts for every fireside, however humble? Where the magazines and useful compilations accessible to the many? A flood now, mingled, I admit, with some rubbish; but, at the same time, with much that fertilizes far and wide. Without further details to prove how little it was formerly possible for the poor and the provincial to profit from books, we need only to recollect they were so difficult to be made, before printing, that the new art, by multiplying them so rapidly, was by many deemed necromancy; and in some ages and places they had been so expensive as to cost more than their weight in gold; and that only to read was so rare an accomplishment, as in some countries to entitle criminals to exemption from severe penalties! Another cause of modern progress has been the wider use, if not the discovery, of gunpowder. This erected a barrier most effectual against those irruptions by barbarians which previously brought such devastation on much of ancient learning, as well as civilization. A people cannot long succeed with the arrow against the rifle and cannon; nor, without the resources of civilized life, — to say nothing of its skill, — either manufacture or buy sufficient gunpowder and fire-arms for a long contest. Hence, since their extensive use, not a single instance is remembered, where a permanent conquest has been achieved by savages over the civilized. No longer, as in early ages, do Goths, Huns, Tartars, Turks and Moors, sweep into ruin the arts and monuments of more polished life, and often bury in exile, when not extirpating, the whole mass of a conquered nation. On the contrary, it is now the unlettered races, in both hemispheres, which recede or perish before the superior weapons of modern discovery. And it is Rome, though in her decline politically, that, since the invention of gunpowder, has helped to civilize both Asia and America, as well as Europe, rather than fearing to be overrun again by the hordes of new Alarics and Attilas. We can hardly measure our progress in security from this cause, unless we look back to former dangers, and reflect that the whole civilized world has now become exempt from the hazard and the disasters of permanent subjugation by any barbarian power whatever, whether issuing from the tent of a Cossack, or bending a bow in some of the gorges of the Rocky Mountains, or hurling a spear on the banks of the Niger. Above all this, when contests now happen between rude and civilized nations, as they are won by the latter, it follows that civilization, instead of being retarded or extinguished, is fortunately diffused wider. Cultivated victors spare the vanquished; and, guided by more humane principles of national law, strive to introduce new means of livelihood,

superior education and morality, better legislation, and thus, in the end, often bring to the conquered numerous blessings, rather than extirpation, or curses. Every improvement in the instruments of war tends likewise to increase the superiority of civilization, and lessen the probability of frequent hostilities; and the percussion powder, revolving fire-arms, the Paixhan cannon and more scientific evolutions of troops, as well as the invention of gunpowder itself, all contribute, in the end, to diminish the waste of human life.

It is contended, also, by some, and not without plausibility, that the introduction of fire-arms has assisted much to elevate the lower classes, making their military services equally efficient with those of the feudal nobility, and has thus helped to pave the way earlier to the abolition of serfism, and all that menial dependence of the many on the few which characterized previous ages. Connected with this is another memorable proof of the progress of society to a higher and better condition. It is, that *cruelty* of all kinds has been gradually lessening. This has aided to strip war throughout of many of its horrors. It makes prisoners where it once extirpated; and prisoners to be exchanged, rather than enslaved. It exonerates even from imprisonment all not in arms, and thus relieves helpless infancy and the feebleness of woman from the bitter sufferings of captivity. It has, in truth, rendered war itself less frequent, substituting reason and negotiation and arbitration more often for the battle-field; and the frivolous grounds for hostilities which often have deluged nations in blood would not in this age rouse public feeling, nor arm any free government, either with the sinews of war, or the lion hearts which are indispensable to its success. The same enlightened progress in public opinion, humanizing as it spreads, has secured more fraternal sympathy from man to man in all things. It has studded cities with hospitals, and the whole country with almshouses. It has exploded the ancient idea that foreigners are of course foes, and to be treated as barbarians, and has secured protection and friendly intercourse abroad not merely by treaties, but by resident ambassadors and consuls, as well as a more liberal code of international law. Till late as the seventeenth century, scarcely any books existed on the morals and rules that should govern the intercourse among nations; and perhaps no stronger evidence could be cited of the progress made in this matter than the fact, rather harshly expressed by a recent writer, that "the international law of Greece and Rome was the international law of New Zealand, with the exception of *cannibalism*." Under these more benign influences, all punishments, also, have become less severe. It is not the American mind only, nor the German, nor the Italian, which has exhibited greater gentleness in its course towards offenders, and sought, under auspices and passions more subdued, public reformation, rather than vindictive persecution. But the codes of former ages, so blood-stained, are manifestly in bad keeping with the whole spirit of this, as pervading most of civilized society in both hemispheres. Whipping, cropping and

branding, are going more into disuse everywhere. Torture is almost universally abolished. There is a growing disposition to spare life, and to reform by giving instruction and imparting habits of industry, rather than to exterminate; and most of the world has at last begun to practise as if they believed man was not a fit subject for vengeance merely from his fellow-man, and possessed reason, conscience, a heart and soul to be improved, and, if possible, used for *nobler purposes than to be hung*, or made food for gunpowder.

Nor is it difficult to see, that, in connection with these causes, and sometimes in consequence of them, great progress has been made in society, by emancipating mankind from most kinds of servitude, whether political or social. Slavery, in its most abject form, once pervaded almost every country, Christian or Pagan. But now, among the whites, it is abolished as to the same color, over most of the world; and where still existing as to them or others, under the relics of feudal institutions, or the tyranny of conquest and of castes, it is much mitigated, and, in most places, tends gradually to extinction, as fast as due training for self-government and the public safety may warrant, under the reforming influences of letters, religion, and a better knowledge of human duties, no less than human rights. Even the servitude of labor to capital, which at times has debased some politically free, is on the wane; and as suffrage becomes broader among those well educated to the business of civil life, means will certainly be devised to make society more just, as well as humane, and compel *peaceably* the adoption of laws not agrarian, nor in most cases revolutionary, but which protect and favor all equally, insuring more mutual dependence between different classes, by lifting up the down-trodden, and by providing as carefully for the masses as the few; and which, though protecting property, pay at the same time some due regard to the person, and the immortal soul. They will thus yield the chief fruits for which alone equality of political power is useful, and without which it is a mere bauble. What fruits? you may ask. Those by which intellectual and moral as well as physical comforts become open to industry and virtue, and are usually their sure rewards. In truth, within a century or two, great progress has already been made, in many places, not only in striking the collar entirely from the necks of the laboring classes, but in fitting them for a larger participation in that political power which a superior education and a purer religion teach them is their birth-right. Government has thus become understood and valued more by the whole, created more by the whole, sustained and administered more by and for the whole. It rests on the true, strong, Doric column. And such impulses, kept up and invigorated, till pervading the whole mass, are all which is needed for public security in breaking the chains which remain, either of political or social servitude. Because the stamp of Deity is on the humblest, confining the nobility by nature to no lot in life, and preparing all to make progress in intelligence and power, and, what is equally

vital, to use them, safely and beneficially, under the mighty influences of the schoolmaster and the Bible.

In this way, the whole of the great interests of society have experienced an advancing change. More of its members becoming enlightened and moral, besides possessing a much deeper stake in its success, the social fabric is fortified better within, against decay and corruption, as well as violence or insubordination, and, at the same time, is stronger to resist all aggressions from without. If, under such impulses, manufactures and commerce have made the most striking advances, and at times collected many more together than in other pursuits, and opened a door oftener to some of the evils attendant on crowded conditions of society, modern improvements have, at the same moment, been successful in furnishing antidotes to such evils, or much to counterbalance them. Because those improvements have increased to all classes thus situated, not only greater facilities of intercourse and exchange of advantages, but more opportunities for instruction of all kinds,— better schools, lyceums, institutes and colleges, and more liberal endowments for the poor, as well as retreats for the unfortunate, — and, by various other aids, no less than these, have helped to push upward the social position of the whole. In the political relations of many thus acting in concert and under a larger liberty, — formerly so fierce, licentious, and revengeful, among themselves, and so oppressive without, — great progress has been made by these means, united with the representative system, guarding against the recurrence of past excesses. That system, greatly improved, if not born, in modern times, has been a coöperating cause with the others in revolutionizing the whole movements of such associations, wherever representation has been duly extended. By delegates for small divisions, it has assisted to make officers better known to those who confide in them; to bring responsibility of all kinds nearer home; to calm discussions and tranquillize action; and, in free governments over crowded cities, and especially in democracies, whether dense or sparse, such a course introduces a strong guaranty for their durability.

It is no longer only a "pent-up Utica" or turbulent Athens, but half a continent, that can deliberate. By this improved machinery, it can act, too, as well as deliberate,— not infallibly, I admit,— but, among a moral and enlightened people, with all that regularity and justice attainable in any position by frail humanity. In fine, under all these advances, neither demagogues nor despots have now the passions of an ignorant populace, acting with the ignited force of gunpowder, in great masses and without constitutional checks, to inflame and rule and betray, but an intelligent community, conferring together in small numbers or through a few trusty delegates, and under forms and balances of their own free choice, and thus to be convinced and thus obeyed.

There is another change, akin to this, which is very perceptible. Over the whole length and breadth of modern society, at the same

time with the emancipation from political and social servitude, a gradual release has been going on from the yoke of numerous antiquated ceremonies, obsolete ideas, systems long since exploded by reason, and tests fitted chiefly to encourage hypocrisy, and ensnare or disfranchise the honest. Modern society has advanced so as to demand what has substance and vitality. It is no longer content with mere show, words or forms, satisfied to clasp a cloud rather than Juno. But practical objects have taken the place more of speculative ones; life has become more a search for truth; history, a chronicle of facts rather than romances. By the growth of the social affections, home and the heart engrossing more of the attention formerly lavished on battles and dynasties, — and the many, as well as the master spirits, engaged in travelling, not on holy pilgrimages to Mecca or Jerusalem, but to learn more of men, and governments, and the arts, and all exploring less verbal criticisms, abstractions and polemical controversies, but infinitely more improvements in the great means of subsistence, and the security of the rights of man, and a just knowledge of all the momentous duties and destinies of the human race. We need not weep, then, that *the age of chivalry is gone*. Because, if so, an age of practical utility has succeeded, and its changes, crowded into the last half-century only, are effecting more to make mankind at large wiser and better than have the glories of the whole race of Alexanders and Tamerlanes since the flood. Indeed, such malign influences as theirs have often, for a time, forced civilization back, or clouded its progress; and one of the standing prayers now used by the Catholic clergy in Mexico is for their military despot, as a bulwark against the progress of reform. But, notwithstanding such apostasies and vicissitudes, it is consolatory to reflect that the origin and end, the instincts and character of man, have become better understood; the sympathies for each other's sufferings and wants spread wider, and these, with the causes before developed, have united in pushing him forward, however slowly, yet surely, to some superior condition both here and hereafter.

Another proof of this progress, and, at the same moment, evincing an increased capacity for self-government, is the wide escape that has occurred from the dominion of numerous superstitions. Wherever the prejudices of a supernatural cast, which once enslaved so many, have been overcome, as is the case in numerous places, — though unfortunately not in all, — people cannot be so easily misled or betrayed. No augur is now to be consulted by the initiated, before public action. No oracle, no soothsayer, no Pythian priestess, appealed to by high officials; but the reason and judgment, the interest and duty, of all invoked, and the trembling scales in the sky inclined to one side or the other by intelligent argument, and that public opinion, which, honestly formed in the open day, after free discussion and on full facts, is a far better guide than all the mythological juggling in past ages, and all the Pagan divinities that ever entered the Pantheon. Still more

recent, and connected with this revolution, has been the happy riddance, generally, from such terrors as those of witchcrafts, the horror of ghosts, the church-yard sprite, and haunted ruins; the slavery to signs and omens, the delusions of magic, and all the marvels of astrology. Once, too, whole nations were paralyzed by the comet's glare, shaking from his *flaming tail*, to their disordered fancies, "wars, pestilence and death," — nations that now gaze undismayed, not only on his transient splendors, but on the darkness of the eclipse, formerly supposed also to shed such *disastrous twilight* over human affairs. In short, if the Chinese sailor should yet rely on his incantations or charms, and the Mussulman confide in a verse from the Koran, rather than a good cause, and brave arm, and just Providence, — thanks to an intrepid Luther, — thanks to Wickliffe, Huss, Knox and the kindred souls, since, as well as before, enlisted in reforming the world, — thanks to them all, that we have at last become free from the thraldom of superstitions like these! With that and other glorious points, have come also the advances made of late years in toleration, even among Christians.

The *auto da fé* is gone, by which some of our fathers perished at the stake. Gone, likewise, is the inquisition, which tortured others; and in their train have disappeared most of the bulls of excommunication, which banished some, and the disfranchisements and dungeons, which beggared others. And though the crude views of those ages as to the sacred rights of conscience rendered some of the persecuted, in their turn, persecutors, yet ere long they too came to look more charitably on honest differences of opinion, evinced the awakening spirit of modern progress in their legislation, and at last their descendants stand disenthralled from this enslaving error, as well as many other kindred follies once associated with intolerance. Of these last, we need mention only the imprisonment of Galileo in the capital of Christendom, for declaring that the earth moved; and the denunciation of a belief in the existence of the antipodes as a heresy, punishable with death; and the condemnation of a book on so harmless a matter as stenography, as being full of *diabolical mystery*. It is idle to pretend that the present condition of civilized society exhibits nothing which can be deemed improvement in such matters. In truth, it is better everywhere, though not yet ripened in all places as here, so that one brave soul can always, on any topic, raise his voice, with impunity, against misguided millions.

Many other illustrations of the progress made by mankind might be detailed, did time permit. Voltaire ingeniously refers to several before his day, in a supposed dialogue between Tullia, the daughter of Cicero, and Madame Pompadour, some of which have not been alluded to, but are interesting. Among them, he causes to be shown to Tullia a looking-glass, supposed to be unknown to ancient Rome, in her palmiest days; and next invites her to partake of such novel refreshments as tea from China, sugar from India, coffee and chocolate

from America — the last a place undreamed of by her cotemporaries, though nearly as large as Asia, Africa, and Europe, united. He then presents to her a telescope, and explains the marvels of the solar system, under the discoveries by Newton; urges her to eat ices, formed by the skill of modern chemistry; and offers for her perusal that daily miracle, a newspaper, with all its *moving incidents by flood and field.* But what stronger evidence of the continued advancement of society can exist, than the fact, that since the dialogue just referred to was written, the world has teemed with still further improvements, and many of them most striking in character? Besides the discoveries pushed so much deeper into chemistry, what have we witnessed since in electricity, in galvanism, and even magnetism?

Whoever, like Franklin, had attempted on the seven hills of Pagan Rome to draw lightning from the clouds, would either have been flung to wild beasts, or hurled from the Tarpeian rock; and a galvanic battery applied to give motion to a dead limb, on the same spot, but three centuries ago, would probably have provoked a prosecution for sacrilege, to conjecture nothing as to the worse fate, only fifty years since, likely to have attended a performer there in what would have seemed the rank sorcery of mesmerism. Without stopping now to particularize the advances in all these within a few generations past, what have we beheld, also, by way of progress, in machinery of every kind? Passing by the myriad of improvements in former ages in tools for saving labor in every department of life, and every operation not performed, as at first, by the first and only tools then used, the naked hand and foot,— what have we witnessed in spinning and weaving, and in smelting, rolling, and cutting metals? in the cotton-gin? the steamboat, locomotive and railroad? — those bold innovators on the torpid habits and opinions of the regions they penetrate. It has been computed that, within the last twenty years only, more has been done to improve the internal commerce of the world than in the whole century previous.

What advances have been made, likewise, in the new and useful application of former discoveries — the pump, for instance, used to empty poison from the human stomach, the siphon to drain mines, and the screw to remove the largest buildings and vessels!

In fine, as a closing illustration of some of the extraordinary strides in the progress of society, see this Western Hemisphere — this new world and all its vast concerns and influences — added, in little more than three centuries, to everything known to exist before. Look at it, too, as when found, and all its advances now. Nay, look only at that part of the territory which forms our glorious Union, contrasting its condition then and now: — then, a savage wilderness, tenanted by mere savage men; now, represented, at the very court where Columbus displayed the first trophies from its discovery, by his greatest biographer, born here amidst the comforts, civilization, and prosperous greatness, of so many millions.

The whole seems a miracle, and has been acting or reäcting on every quarter of the globe. Indeed, the advances in the very spot where you now listen may be regarded as in some respects symbolical of the whole. Not a century ago, it was animated only with beasts of prey and more fierce savages roaming over its ever-green ridges. Next it became blackened with the fires of the first settlers, preparing the earth to yield sustenance for their families after a painful emigration, looking more perilous at that time than a removal now to Iowa or even Oregon. Next came religion and learning, under the auspices of the elder Wheelock, braving every danger to help to solace the white wanderer, as well as Christianize the Indian; and next, but, it is hoped, not last in progress, succeeded what now surrounds us and characterizes the whole length of that beautiful river on whose banks you repose — a higher cultivation of mind and the soil; and concentrated here, in the consecrated halls around us, instruction more elevated, classic tastes, costly architecture, and ardent aspirants for all that embellishes life, and paves the path to professional glory.

To present no further details on this, civilization seems, of late ages, in some places, to have crossed mountains it formerly supposed to be boundaries of the world; and it has doubled capes, and pervaded seas, not before known to exist; and has subdued nations after nations once out of the pale of humanity, as well as ameliorated continents where letters and a pure religion never before even dawned.

The general results of this branch of the inquiry seem to be these. Advances have been made hitherto in almost everything; but, more especially, in material subjects, such as the immediate arts of life, the natural sciences, and those of the belles lettres which appeal strongest to the senses. As would seem natural, on the theory of progress, they have been in what is first needed and most imposing in the youth of a world, rather than in what follows during manhood and age. And whatever special exceptions may exist, generally all which belongs to the earlier stages of civilization has penetrated first, widest, and deepest; and, slowly spreading from the margin of rivers and seas into remoter regions, excites, in time, all classes of society — makes earth, fire, air and water, more and more its tributaries, and at last becomes accompanied often by devotion to abstruser objects of interest, such as metaphysics, morals, and political economy. Without meaning, then, to say, like some philosophers, that men at first were but monkeys, and everything beyond that has been the fruit of exertion or progress, it can safely be inferred that the world was once in its cradle. It has been growing for four thousand years since. Civilization, in the lapse of ages, has, in most things, been in a transition state onward. It has been a new art invented in one place, a new instrument in another, and, further on, one or both improved; now a new principle discovered, then a new country or continent, a new power in nature or machinery, and anon some spirit-stirring genius breaking forth in advance of his age, and some great crisis or

revolution in empires following — many of which events live yet, and speak of the advances in society, like mile-stones on the highway of time.

My other position, which is in favor of progress hereafter, requires less illustration, being a very clear inference from the process of the past. For, if society has generally been progressive, the inquiry is reasonable, why should it not continue to exhibit that character? Assuredly it will, unless, as some contend, man has already achieved the whole for which his finite powers are competent. But all around us demonstrates that, great as the advances have been hitherto in some countries and subjects, the greatest height has not yet been reached everywhere, and in everything, nor even so near an approach to it as the human faculties appear to be no less able to reach than they have been to master all which the past develops. Thus, suppose, for a moment, that a few individuals, or even classes, have in some nations embodied nearly all which is feasible in refinement or worth. It by no means follows that this is the case with the whole of their population, or with all nations; and more especially with those where large numbers continue to look on many blessings they never enjoy, and live even houseless and unfed, except by public alms, and untaught and grovelling in the worst menial debasement in the very neighborhoods where higher ranks lavish their superfluities.

Manifestly, too, large spaces in various communities are yet to be filled up by advancing further and diffusing wider numerous excellences existing elsewhere. And, indeed, some whole nations are yet to be more improved in everything, before attaining even a semi-civilized condition.

Should the doubter as to further progress not be content to stop here, satisfied with such general considerations, but wish me to descend into particulars, and ask confidently, as is often done, whether, among various instances, the qualities of energy, courage and fortitude, are likely ever to be pushed further than they have been by the Cromwells and the Napoleons,— I answer, that these traits of character belong to savage, no less than civilized life; and, however strikingly they have, in the latter, broken out at times in the strife of battle, or the deadly defiance of revenge, or the agonies of martyrdom, there is a wide field still open, to push them further, in many of the peaceful trials of humanity, and by better education to concentrate and harmonize them more than hitherto with qualities less stern.

Or, should it be asked whether a higher degree of excellence in painting can be reached than what distinguished Apelles and Raphael, or in sculpture than what immortalized Praxiteles, or in poetry, Homer,— I reply, that, aided by all former works, higher are likely to arise; as the forms of beauty, long and carefully reproduced, and amid scenes more congenial, like scriptural pieces in the Holy Land, can hardly fail to be improved. Indeed, since the day of those so eminent, higher, in the opinion of many, have already arisen among the

Reynolds's and Canovas and Shakspeares. But, what may be a truer test as to progress still further in the fine arts, surely much more can be effected over the world as a whole, by making a greater number participate in their refinements, and that in a degree and style far beyond what has generally prevailed hitherto. Again, if it be inquired, are we to have philosophers who can eclipse Socrates or Plato? Far superior, in some respects. For what elevation would have been imparted to their researches, whether in philosophy or morals, by only that single volume of revelation which has been promulgated since they lectured in the groves of the Academy! And, in proof of such continued progress, in one thing or another, what would even Newton, though so much above them as he confessedly was in some things, have given for all the more authentic details as to the planetary system ascertained since his day by Laplace and Herschel? And how superior would not Bacon, as well as Linnæus and Pliny, have been, if assisted by a knowledge of all the arcana of nature developed since, in many of her wondrous works, by Cuvier, Davy, Le Mark and Liebig? And what new light would not the experiments and more extensive statistics since the days of Adam Smith, or even Alexander Hamilton, have poured over some of their inquiries into the true elements of wealth and finance, or social improvement and just government!

Let me caution objectors further, that if the highest degree of perfection possible for human genius had already been attained in some of these departments, and in oratory also, and every classical acquirement, it would not follow that such perfection had been reached in all the other interesting and useful objects of human pursuit. For, dare any one say that nothing more is to be known in geology, — a study where every day discloses new wonders? Or in natural history, — so fruitful in discoveries which constantly confer new benefits on mankind, and reflect additional glory on the being who formed, with such miraculous organs, the smallest insect or shell, as well as the mammoth? Nothing in electricity, — which so mysteriously rends the forest tree it may have helped to nourish, and which, if not, as some imagine, the mystic power used to keep the planets in their orbits, performs numerous other great functions in the universe, seen, as yet, only through *a glass darkly?* Is nothing more to be done, also, by way of progress in agriculture — the most vital pursuit of man? No tools, nor seeds, nor stock, nor soil, to be improved, when scarce a revolution of the sun occurs without looking on useful advances in some of them? Nothing more in manufactures, long so inventive in substitutes for human labor, and still continuing to be so wonderfully progressive, in resources and power, through the whole of the present century? Nothing in commerce, — coursing as it does annually and successfully every region of the globe for new products, new advantages, and new light? Nothing in government, — its theory or practice, — when so few yet know all the beautiful securities of modern checks

and balances, or acknowledge the equality of human rights, or practise on the great truth that the administration of government depends more on the community than its officers, since the latter, representing their constituents, do *but echo back the public voice;* and hence, private frugality must be cultivated among the people at large, to insure public; private integrity, to insure public; private honor, to insure public; and, in short, morals must first be interwoven through civil contracts, all the private relations, and the whole social circle, in order to pervade as they should politics, in every shape and hue?

But, beyond all this, as to persons and places capable of further progress, can it be pretended, for a moment, that nothing more may be usefully taught among the host of five or six hundred millions of human beings, who now live, and cannot even read or write? Nothing hither in liberty, religion, the arts, and all the charities of life, among the slaves, savages, pirates, banditti, and idolaters, who, scattered hither and thither in degradation and delusion, almost outnumber the rest of our race? Is the great mission of man on earth terminated? Are civilization and Christianity, suddenly and incomplete, to halt in their onward career; and millions on millions of immortal souls continue forever to be left ignorant of the cross; cannibalism to pursue its orgies in some places; widows to be burned and infants sacrificed in others; and brutal superstitions of all kinds to hold their high carnival, unmolested? Though evils like these, as well as sottish debauchery and the cruelties of despotism, have been mitigated, in some countries, and more especially during the last two centuries, yet, in portions of the earth, there is still left to be reformed quite enough to engross long all our energies, and even enthusiasm.

Perhaps a word or two more of suggestion may not be amiss as to some further room for progress which seems possible among ourselves and those allied to us in high civilization. We, boasted teachers of Asia and Africa, sending to the Ganges and the Nile something in arts, literature, science, no less than religion, for a revival there of past greatness, — we, even among our proud selves, have not yet, I fear, fathomed half the mysteries of the elements around us, or of our natural history, or the peculiarities of our social system. Saying nothing more, then, of other races, and how much remains to be done among such helots as cringed before the late tyrant Francia in the wilds of Paraguay, or the semi-barbarians who yield an almost oriental homage to the petty despots over most of Spanish America, or the more miserable serfs and pagans half the world over, — are not many things still wanting among the Anglo-Saxon race in both hemispheres, lofty as it is?

Much, in my opinion, to improve some of their starved almshouses; the hard-worked children in factories; the promiscuous confinement and taint, in some prisons, of all ages, and all degrees of turpitude; the dungeon abodes in wretched collieries; the beggared victims of corn-laws; the various Alsatias of crime in large cities, and the nurseries for

penitentiaries, Bridewells, and Magdalen hospitals, everywhere. Nay, more, — much to correct the licentiousness which too often stains not a few, even of patrician rank; — their bloody codes of honor, as well as the hells frequented to murder time and gamble away fortunes; and something in the frivolities of fashion and the sensualities of Epicurean wealth. Surely, not a little over the whole, in many other things of smaller though pernicious import, such as the ultraism of both parties, the selfishness of cliques, some fallacies in professional lore, too universal a worship of Mammon, *the law's delay* and expensiveness, some quackery in government as well as medicine, and, not to make the enumeration tedious, a proneness, too widely indulged among nations, for conquests and dominion.

What confirms all this view of ample room for further progress among the most enlightened, is the well-known historical fact, that usually one age or nation is neither competent nor inclined to accomplish everything, being so closely engrossed in some favorite objects. It must, therefore, always leave something important for others to achieve: as, the fifteenth century was distinguished for discoveries; the sixteenth, more absorbed in religious controversies; the seventeenth, and eighteenth occupied most with searches into the true principles of government, and clustered round with revolutions; while the last half of the eighteenth and first of the nineteenth have been more conspicuous for improvements in machinery and steam.

Even some of the centuries which preceded these, and were called *the dark ages*, made progress in some things, and now appear dark only in contrast with what since has, on various matters, beamed out lighter, and proved more exciting. In this aspect of the subject, it can be seen further, that morals are capable of being diffused wider, in many places, with ease, where they have been only neglected for manners; arts, where abandoned for arms; the severe sciences, where supplanted heretofore by the belles lettres; practical usefulness, where overlooked for the mere fashion and elegances of life; and everywhere the genius of commerce, with all its great blessings, be made still more and more to triumph over the wasting genius of war. In truth, under the reign of peace and the benign influences of free and friendly trade, why is there not scope and range enough for many nations yet to spring up from seed but just sown — isles of the Pacific, lately discovered in nakedness and barbarism, to become famed as Laos, or powerful as those once the *ultima thule* of the known world; and the rich valleys of the Oregon be as crowded with civilized life as those of the Connecticut or Hudson; and those on the Isthmus of Panama become covered with the silks and spices and teas of the east, travelling hither, amidst their gorgeous scenery, with much more rapidity than they ever before doubled capes, or crossed from Suez or the banks of the Euphrates? Nor does it answer to object, that leaders are indispensable to accomplish great changes, and that a Columbus must appear before new worlds can be found, or a Moses to conduct a people

from bondage, or a Warren to die to secure liberty, or an Arkwright, Watt and Fulton, before the face of society can be changed much in arts or commerce. For, if, in crises, men like these, and their invigorating influences, may be necessary as pilots in advancing humanity, does it follow that the race of discoverers, lawgivers, and benefactors of all kinds, is extinct?

There always have been instincts in men, and laws pervading society, which provide for all this, and which remain in full force. The zephyrs come and fan the earth, wherever the flowers are ready to blossom; and can you doubt that the reformer, the hero and patriot, will appear, when battles are to be fought for improvement, for the altar, and for public liberty?

As well might all in our father-land have despaired two centuries ago, when, to use the words of a modern poet — Lowell —

> "Upon the pier stood two stern-visaged men,
> Looking to where a little craft lay moored,
> Swayed by the lazy current of the Thames."

Those men were Cromwell and Hampden, contemplating an emigration to New England, as an escape from oppression at home. The former at length refused to embark. Why? Because prophetically he saw and said, *here*,

> "Freedom hath yet a work for me to do:
> So speaks that inward voice, that never yet
> Spake falsely, when it urged the spirit on
> To noble deeds for country and mankind."

So much more being needed to be done to improve the world in various respects and quarters, and some of the objections against our efforts being so feeble, let me, in conclusion, entreat you never to encourage other objections, founded on doubts as to the ability of mankind generally to make some further advances. Such doubts not only paralyze every efficient effort, but are irrational. Human genius is not exhausted. Man is still a man, and second only to Divinity in power. Nor is all the world around us worn out. Almost every cause which has aided heretofore in improving society lives in full force, pushing us on further and further, and sometimes acting with increased energy. All the useful inventions known to have been made in former ages, where not surviving, have been recovered; and not only some of these improved, but many added. Discoveries, too, have multiplied; and they, with all the numerous glories of literature, and law, and morals, are yearly spreading wider and penetrating deeper into the different layers of society, and, with commerce more and more as their pioneer and pathfinder, are conducting man, in every quarter of the globe, to a higher state of civilization. And all this ennobling work of improvement, so far from being finished, or halted

in its career, is now glowing on the anvil, and is moulding, and capable of being long moulded, into better forms.

Is it possible, then, that some mysterious agency is to intervene, and stop this progress? None, surely, when all "heaven and happy constellations" shed their choicest influence on such movements as, like these, tend to do God service, by improving his earth, and adding to the happiness of his countless worshippers. Rather does this reconcile much otherwise obscure, and lift the veil, the shadows and the darkness, which rest over the object of much of human existence. Under such circumstances, can any of us hesitate in uniting to promote a work so useful and glorious: at least, to break through any incrustation which may have gathered over our own energies; to brush away every monkish cobweb or mould from the principles and institutions we have inherited; try to make all the dry bones around us live and move forward; and, in some way or other, assist to correct what is bad, and crowd on whatever is backward or sluggish? Certainly, while one tear remains to be wiped away, a barren spot that can be made to blossom, one evil to be mitigated, one useful principle or improvement to be introduced anywhere, there is ample employment for all. We must attempt this prudently, I admit, if we would do it successfully. For a great danger to be guarded against exists in any misdirection of our efforts, running into extravagances often through zeal without knowledge, rather than from bad intentions. Such a course as the last may, for a time, retard, if not defeat, the best designs; as it has frequently blasted bright hopes in political reforms, and thwarted many conversions from Paganism, as well as chained the social system of some countries almost immovably in error. While our policy, then, should be, not at once to attempt or hope for everything, yet, at the same moment, it is rational and sober-minded to expect the greater maturity of all which is but partially grown, and to strive for the wider dissemination of all excellences as yet limited in their range or influence. This, it will be seen, is no Quixotism fighting windmills; no Godwinism, seeking with hot haste perfectibility in anything; no Utopianism, looking for a paradise regained on earth, or expecting millenniums of any kind here, without a miracle, while the faculties continue finite, life so short, and so much remains to be accomplished. But it has in view to perform all which is feasible, consistent with reason, nature and analogy; and, thus limited, to improve something or other, — to advance, to act and induce others to act quickly in making the world better, and to hope for success in this, and aim at it chiefly, not by violence, sedition, or agrarianism, but through universal education and a pure religion; thus enlightening and guiding, as well as exciting the millions, and establishing everywhere the salutary conviction that an all-controlling spirit overlooks the affairs of life. It urges us to be prompt in measures to prevent no less than punish vice; to cultivate a firmer courage to brave the obstacles, and surmount the ills, which *flesh is heir to;* to separate the shadows and phantoms of

existence more from its sober realities; to enlarge the boundaries of practical skill, by coöperating more with nature in bending all her great powers to the use and advancement of society, and awaken, if possible, everywhere, the moral sense of all, in one way or another, to pour into many benighted regions those improvements suited to push higher the condition and destinies of most of the human family. Nor can there be any harm, if we attempt in these, or some better modes, to have all around us, not only keep up with the spirit of the age, but go in advance of it in some things, and discover and announce, and, soon as may be, establish more of those great truths in philosophy and government which always distinguish eras of rapid progress.

In all this, it will be seen that the policy and end inculcated are to add, rather than destroy; and to preserve all which is now good, though striving to render it better and diffuse it wider. They are not to pull down even what is defective, till something superior is devised; nor, in those numerous cases of a slight canker or decay which appear in society,— its manners, education, pursuits or religion, — to lay the axe at the root of the whole tree, but merely to prune off what is dead or fruitless. Should rottenness, however, infect the whole, why should not the whole fall? or, should corruptions in government become intolerable, and usurpations dare to trifle with public forbearance, and trample on the liberties and laws that ought to shield every fireside, then a thorough reform is sanctioned, not only by political justice, but by nature and nature's God; and, as oppression sometimes goads its victims into madness, the measures for that reform are not always to be weighed in very nice scales. I concede, however, and even insist, that our means, no less than our end, should always be just; and that, to wage a war against error, struggling daily with imperfection and wrong, is not enough, unless we do it by healthful means, — means enlightened and moral, means also public in their scope, rather than selfish, — aspiring to public benefits through public aims and public efforts, as well as in legal and constitutional channels, wherever suitable ones of that character exist. Such a course in government is neither Jacobinical nor bigoted. It will give as little countenance, on the one hand, either to regicide or liberticide crusades, — regardless of all circumstances and consequences, and fanatically overlooking the opinions and wishes, as well as fitness of society for changes, — as it will, on the other hand, tolerate the continuance of imperfections which are curable, or the long reign of injustice or oppression of any kind.

Our efforts, too, will generally be most successful, if concentrated to promote what has been least perfected heretofore, instead of wasting them where further progress is most difficult, and to forward what is useful instead of ornamental, and what yields benefits, not so much to a favored few, as the many; feeling assured, throughout, that such efforts, though from the closet and workshop, rather than cabinets and senates, and stripped of all which may dazzle or inflame the imagin-

ation, will, in the end, best awake slumbering virtue, and confer the most durable benefits on mankind. A single new art or principle thus quietly introduced in peace, or an old prejudice thus removed, so as to facilitate intercourse abroad or reform at home, is a greater victory than where millions perish to make a hero.

It may excite some surprise, that I have avoided much allusion to the promotion of progress in society, by means of public associations, whether social, literary, or political. I have said little of their best course of policy and organization, as well as patronage, and all their great agency for good or evil, in the advancement of human affairs. These are mighty themes; and they, and the vast works and munificent enterprises attending some of them, are destined, perhaps, to exercise as large an influence in future as they have heretofore. But, as such inquiries might push us into debatable ground of a party character, no appeal is made on this occasion, except of a personal bearing; and, in such a capacity, my final entreaty is, that each one goes onward, fearlessly, over paths, however rugged and narrow, whithersoever a conscience well enlightened may lead; and then, so far from aiding to make this "a cold and coward age," treating that, in any pursuit, station, or association, as inaccessible which is only difficult, and as impossible which requires only more labor and care, — we shall rather throw ourselves into the breach, and, believing that there is much more yet unexplored, unexamined, uncertain, and even unknown, we shall become earnest workers in the great harvest-field of progress.

One and all, we have a mission to perform on this subject; and if we are not about it early, efficiently, intelligently, like men of the advanced spirit of the age, and as becomes the gathered wisdom of forty centuries, the shame, as well as the responsibility, will be ours alone.

ON THE PROMOTION OF AGRICULTURE, MANUFACTURES AND COMMERCE.*

GENTLEMEN OF THE AMERICAN INSTITUTE: — Meeting, as you do, for the promotion of agriculture, manufactures and commerce, it may be useful to make their encouragement the theme of my discourse. Such encouragement is a noble employment, a noble topic.

These great interests lie at the foundation of all that can peacefully build up states or empires. And amidst the various views connected with so fruitful a subject as their encouragement, perhaps none can be made more useful, than to examine by what causes, and in what particulars, these interests have, in modern times, been most advanced, and in this way help to discover what are likely to be some of the most efficient means to produce further improvements in them hereafter.

One of the successful courses to promote the prosperity of all of them has been to cultivate their harmony and coöperation. When these have been cordial in any community, they all triumph — all being thus made tributary to all, useful to all, and swelling the power and progress of all. Indeed, they are three sister handmaids, and, when friendly, exert united vigor, rather than, being hostile, sinking under jealousies and fatal divisions. They should interlock arms, like the Graces.

Among the earliest voyages, was that of commerce for the golden fleece, which usually is raised by agriculture, and was to be made into clothing by manufactures. They had their birth nearly together; agriculture having commenced with the want of food, manufactures with the want of clothing, and commerce with the necessity of each to exchange surplus means to procure the other.

As a further illustration how all these interests are interwoven, and should be equally encouraged, each is almost entirely dependent on the other for existence, no less than prosperity. Because agriculture, without manufactures, is destitute of tools for labor; and, without manufactures and commerce, it must abandon its surplus productions to perish unused; while manufactures, without agriculture, are without food and most of the materials to work upon; and, without commerce, cannot obtain them in exchange for supernumerary fabrics, which they themselves can neither eat nor wear. And commerce, the chief medium for diffusing knowledge and the arts — the great civilizer of the human race — would be without employment, and powerless, if agriculture and manufactures did not furnish

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surpluses to be sold, and thus beget intercourse and mutual benefits between different places and persons, and, indeed, bind together in interests, not only one people, but nations on opposite sides of the globe.

Hence the encouragement, and the consequent success, of all these pursuits, if made one common interest, a united object and aim, in every community; they will then, instead of being enfeebled by partial and opposing measures, and a happy family divided, and every bright hope of all extinguished, — they will then move onward with a force as resistless and sure as that of the great laws of nature around us.

Other separate means to advance each of these important interests can be developed best by adverting, separately, to something the most striking in the progress of each, during the last century or two.

First, as to agriculture. In the long lapse of time since the cradle of the human race was rocked, in Asia, in a garden, agriculture would much, before the last one or two hundred years, appear able to have attained the highest degree of perfection, by means of different soils, from rich valleys to the most barren mountains, tested by every variety of seed and plant, — sought out in every climate, hot or cold, moist or dry, on island or continent, as they rest upon primitive rock, or alluvial deposits, or volcanic lava, or the labors and tombs of the coral insect, like some of the fertile isles of the Pacific, — long ere this we might, at the first blush, suppose that every improvement had been exhausted. But it is to be remembered that the whole life of all nations has not been devoted to agriculture. In some, the hunter state appears to have preceded that of the shepherd, and the shepherd that of the husbandman, with as much regularity as the oak, on some soils, precedes the birch or the pine. While, in others, if placed, like our first parents, in a Paradise, "to dress and keep it," and, when driven forth, ordered to "till the ground" whence man was taken, — as if that was the great employment designed by Providence for the human race, — they have still been interrupted in its pursuit as a continued avocation, by superior attractions in manufactures or commerce, by war or pestilence, by inundations, or hurricanes, or earthquakes, or the still greater curse of despotism or anarchy, till every useful instrument has been pillaged, and prolific fields converted into sand-heaps, or morasses, or, as now in Saint Domingo, where whole plantations of sugar and coffee are overgrown with forests. The mind of the tiller of the soil, in many regions and ages, has also been allowed to remain as barren as his rocks, and, like his neglected fields, to run waste with thorns and thistles.

Amidst the fluctuation incident to such circumstances, it is therefore not surprising to find that the culture of the earth has been in some countries stationary, or even retrograde, while there has been in others a striking change for the better, and especially within the

last two centuries. In illustration of some of its improvements, without going behind that period, the plough may well be particularized. From something little better than a stake, it has in some regions become a machine possessed of iron strength to contend with roots, rocks and a stubborn soil, and which abridges greatly the labors of man, and, by a union of science with skill, is made the most successful pioneer of fertility and wealth. The stone axe and hide chain of the Indian and semi-barbarian have, likewise, changed into iron or steel, possessing so much superior durability, as well as efficiency. The threshing machine has generally, with ten-fold power, superseded the flail, or the foot of the muzzled ox and horse, to tread out grain; and this, or a separate fanning-mill, now cleans it at less expense, and at all times, with artificial wind, though in the stillest calms of nature. The invention of the horse-rake has probably saved millions. Water comes in hydrants for our cattle, no less than families, rather than being laboriously visited, or brought by hand from remote springs. Thus, and by drawing it from the well by better machinery, the science of hydraulics has done much to improve husbandry and promote health, as well as household conveniences; and, in several of our large cities, as is witnessed near us in the Croton nectar, has showered its blessings on all classes, with a profusion, and on a scale of grandeur, hardly exceeded by the giant aqueducts of antiquity.

Chemistry, too, has analyzed the air, the ocean and the earth, and poured forth all her skill to aid mankind in growing materials for food and clothing, and to supply, not only the necessities of life, but its comforts and luxuries. New manures, in gypsum and salt, and new soils, by the mixture of deficient ingredients, are among its proudest trophies.

Before chemistry itself was improved and applied, to test the true ingredients of soils, the discrimination between them was well known to be useful; but could be taught, as two thousand years ago, only by distinctions so general and unsatisfactory as heavy or light, black or red, and wet or dry.

The suitableness of particular crops to particular soils has also received some of the attention it so richly deserves, as has that rotation of crops which will not feed only on one earth, one alkali or acid, but some of them thrive on what is left by others, and what is supplied by the bountiful and renovating dressings which science, as well as experience, directs. The construction and habits of plants have become much better known, by the fascinating study of botany, so as to assist, not only in their culture, but in the useful application of them for food, both to man and domestic animals. Better seeds, likewise, are thus able to be selected for planting, as well as food. Besides this, natural history has contributed liberally to enlarge the knowledge of fattening animals, of the proper nutrition and treatment to increase the power of labor, and of the crossing and improvement of breeds, whether for labor, weight and food, or beauty; and whether the pam-

pered swine, the useful ox and cow, the invaluable sheep, or the sagacious horse.

Nowhere has one cause of a larger supply of milk and a richer dairy been more significantly pointed out than by the Scotch farmer, who, according to Colman, sold his thrifty cows to an Englishman, that returned, ere long, with complaints of their great falling off in milk. "Remember," said the Scotchman, "I did not sell you my pasture, but only my cows." In nothing, however, is the advance in agriculture among us more conspicuous than in the new and useful articles on which it has, within this recent period, bestowed a portion of its energies. It has added the tomato and rhubarb plant, to give health to our tables; the sweet and the Irish potato, to feed millions; and the latter, with the turkey, to immortalize the discovery of America, even more than its magnificent rivers and mountains. Our increase has been so rapid, also, in rearing former articles, partly by means of more prolific soils, but much by improved methods and skill; as to supply pork, for instance, to portions of another continent; and lard to half the world, if needed; and even oil, till the hog is painted in the west as swallowing the whale. The growth of hemp, also, has there been greatly extended for duck and cordage; and the cane, in the south-west, for sugar; and the wheat crop of the whole country augmented, till it has reached one hundred and twelve millions of bushels, becoming as much as that of all England and Wales, besides our vastly augmented products of potatoes, hay, rye and oats, and five hundred and forty millions of bushels of inestimable Indian corn. In short, we seem to have become to Europe, if not the world, what northern Africa once was to Palestine, in the days of Joseph or the Pharaohs, and afterwards to all Italy — the great granary, and the chief safeguard against famine.

Within little more than a half-century, agriculture has, likewise, introduced here, and, by aid of the cotton-gin, supplied, probably, three-fourths of the raw material which clothes a large portion of the habitable globe. Within that brief space, it has swollen the production of cotton, from a few bags, to more than a thousand million pounds, and to the value of sixty or seventy millions of dollars. It has thus not only yielded the agricultural wealth which enriches states, but provided employment for the spindles and looms of both Europe and America, and loaded the vessels of commerce with a richer freight than the golden fleece of Jason, or the abundant mines of California.

A similar career of improvement has, in some places, attended on manufactures. I have treated them, and shall continue to, as embracing all the mechanic arts. A co-laborer, thus, with agriculture, and necessary to give to it implements to work with, and indispensable to furnish all the labor-saving machinery which, from time to time, so increases the power of man over rude nature, manufactures, in late years, have made still more rapid progress than agriculture, by

the greater application to them of the new as well as miraculous discoveries in science, and by the awakened ingenuity of inventive genius, the world over. Their fruits have almost revolutionized some portions of the globe, within two centuries. To be sure, the mariner's needle, gunpowder and printing, preceded this era: but what have we seen since, in the spinning-jenny and power-loom; in stamping calicoes by rollers; in stereotype plates and power-presses; in the manufacture of iron, no less than in its products of nails and screws, costing less now, by machinery, than did once the raw material; in the working on wood, from the planing machine of Woodworth, to the almost intellectual turning-lathe of Blanchard; in the use of gangs of saws, the circular saw and improved water-wheels, and devices for elevating and drying grain, when ground, no less than the remarkable uses of all the novel agencies of steam, electricity, and magnetism? These last were almost as unknown before, for such practical purposes, as the last planet discovered by Herschel or Mitchell, in the most distant regions of space. Manufactures have thus not only aided agriculture, in the cheaper production of food and the means for clothing, beyond the naked fig-leaf or furred skin, but assisted commerce to transport them, by the railroad and steamboat, so as to accomplish, at a far lower rate, an interchange, among every quarter of the globe, of all the surplus labors of man. Another great gain by this, as well as many other improvements in manufactures, is the increased rapidity of its operations. It has made locomotives that cross States while the wagon formerly was loading. It can make paper while, in days gone by, it was washing the rags. It can manufacture books while once it was setting the types. It can clothe armies in cottons during the time it was once engaged in cleaning the raw material of its seeds. It can spin a thread to go round the globe while the stock for it, in the ancient mode, was only carding by hand.

Cloth can be bleached now in the time formerly taken to spread it out. All the metals, as seen to-day in your splendid fair, can be cut and bored, rolled and planed, with nearly as much ease and speed as wood; and leather can be made in a day, if need be, which once required months. The inventions for weaving carpets, for sizing, folding and carding, and even for knitting and sewing, by machinery, are all advances, which, though sometimes small separately, contribute much, as a whole, to swell the improvements of the age.

Manufacturing, too, is a powerful peace-maker. It has improved fire-arms and cannon—both easier to make peace, and "keep the peace." It has added new and more powerful kinds of gunpowder, new shells and combustibles, new modes of crossing streams, new means of preserving provisions, and new inventions to sustain the broken limb, and move about the wounded body. It has thus mitigated some of the horrors of war, as well as multiplied the blessings of peace. Besides this, some new articles, or new uses of them, like India rubber and gutta percha, have, by mechanical inge-

nuity, been applied so as to extend much the comforts and health of society at large; and whole nations have so felt the renovating power of some modern improvements in manufactures, as to bear burthens, and spare surplus hands, for the victories of peace, as well as war, which, but for Arkwright, for Watt, for Nielson and Fulton, might have been as impracticable as some of the achievements in the tales of the Arabian Nights.

Finally, commerce has crowned the whole, by her rapid advances. In some quarters of the globe, she has almost distanced agriculture and manufactures, in their triumphal progress. The form of the vessel has been varied, and fitted better for its intended burthen; the water-casks and tanks made and stowed more usefully; the cordage become stronger; the iron chain substituted for the feebler vegetable cable; the pumps made more efficient, and the means of navigation, by superior quadrants and nautical almanacs, become more accurate and safe to cargo and life. Thus supplied and guarded, commerce has dared to plunge into new seas, and visit oftener new races. Commercial treaties are extended to all sides of the earth, and foreigners everywhere are less regarded either as barbarians or enemies. Commerce, in seeking new markets, has broken through even the gigantic wall of Chinese monopoly, that had withstood the assault of a thousand years, and has thus established an increased intercourse with four hundred millions of the human family. She has, in this way, discovered, not only new markets, and new articles of trade, but new fishing-grounds, and drawn richer harvests from the depths of the ocean; and though commencing here the whale fishery early as the seventeenth century, and by courage and enterprise in it long ago deserving the eloquent eulogies of Burke, yet she has pushed it since with a daring and success eclipsing all other nations; and not only ventured to chase both the seal and the whale among the icebergs of the Antarctic circle, but cross the equator twice, and harpoon the leviathan of the seas in sight of China, whose boasted "celestial" population, with five thousand years of traditional experience, have never yet dared to attempt this, even on their own shores.

Strangers, in travelling through the southern portions of New England and New York, often wonder how its dense population can subsist, and, apparently, become thrifty. But they forget that, beside the little obtained from their sterile soil, the females earn much in manufactories, and the sons and the fathers cultivate the wide fields of every ocean, circumnavigate the globe, and plough for wealth among the shoals of mackerel and cod, herds of whale and rookeries of seal and sea-elephant, to the utmost range of earthly existence. From four to five millions of dollars are in this way drawn yearly from the sea, by that enterprising race, almost amphibious, and, I may say, half web-footed.

Other portions of New England, more north-east, and almost as sterile, flourish, in some degree, from a similar kind of commerce, con-

nected with these fisheries, and of late years have added rich exports even from what otherwise most people would regard as curses — their rocks and their ice; these, by the talismanic wand of commerce, being converted largely into coined gold, and operating as kind blessings both to the sellers and purchasers.

But the proudest triumph of commerce, in modern times, has been the employment of steam and the electric telegraph: one moving the heaviest burthens, in transporting passengers and merchandise, without wind or tide, or the ox, the horse, or the camel; and the other communicating the results with lightning speed: one bringing all nations closer together, for an interchange of improvements in everything, like the great book-fair of Leipsic, for food to the German mind; and the other outstripping the wind, in despatching the news of all, and the wants of all, to every mart, however difficult or distant. In the cheapness of carrying letters, also, almost as remarkable a discovery has been made, by lower postage, as by the electric telegraph.

But enough of this hasty sketch of some of the modern improvements already made in agriculture, manufactures, and commerce. They are guide-posts to the mind for making still further advances. This review has been but opening a door to see and examine some of the lessons thus taught, to increase our future progress in these great sources of national wealth and human happiness. When any of us do not hold the plough, or throw the shuttle, or hammer the anvil, or reef the sail, we still regard those who do as sheet-anchors of the republic, and would fain glean something, for the benefit of each, from the sybil-leaves of experience scattered over the past. But more especially would we do this, first and foremost, for agriculture; because that is, confessedly, the noblest pursuit of mankind — the one whose disciples keep up the most constant and purifying intercourse with God and nature — who constitute so generally the great conservative power in all governments — standing by law, order, and established institutions, till the latter cease to produce the chief ends of good government — and whose labors make them the saviors of famished nations, and the foundation hope for the continuance and multiplication of human life in every civilized portion of the globe. If asked by what special means agriculture seems likely, from her progress heretofore, to be improved most hereafter, I would say, by pushing further all which appears heretofore to have improved her most. It is, in brief, by using more and more labor-saving machinery, by using more and more the most appropriate dressings for particular soils and crops, and by understanding better the habits of different plants, and the qualities of different animals, which are capable of being improved, with the best modes of effecting a salutary change in them.

Thus, for instance, in this age of light, and in a new country, can any one be unable to see the advantages of obtaining an implement in

husbandry by which one man can perform, in a day, double what he could before? or which will cost but half the price of a former one? or which, at the same expense, will last twice as long? By thus cheapening production, all live at less expense, as all are consumers of food and clothing; and, though some may be obliged, at first, to quit their old mode of employment, especially when new machines for manufacturing are invented, yet the use of such improvements increases so rapidly, that more persons, ere long, are employed in the same business, and often at higher wages, as has been most emphatically shown by the invention of the art of printing to multiply copies, and of modern machinery to spin and weave cotton. Your president has happily enlarged on this, a few minutes ago. It is hoped, therefore, that, at least in this country and age, we have but few Norwich rioters, so ignorant as to be willing to destroy stocking-frames because they save labor, and fewer Lord Byrons, so little versed in political economy as to advocate their cause in an assembled parliament.

Nearly a century ago, a Scotch mother, according to Sir Walter Scott, objected to her son's using what she called a "new-fangled machine for dighting the corn from the chaff; thus impiously thwarting the will of Divine Providence, by raising wind for her ladyship's own particular use, by human art, instead of soliciting it by prayers," &c. But now there is no American, it is believed, and, peradventure, no Scotchman, so far behind the present exciting and well-informed age as to raise a hue and cry against any new labor-saving machinery. One obstacle to its rapid increase in agriculture will be thus more fully removed, and neither winnowing nor threshing machines, nor others of like value, be opposed, on the ground that they are irreligious, or because they save so much manual labor. Instead of that, by the increase of intelligence, all labor-saving machinery in farming bids fair to become more widely introduced every year. It can also be improved in form. The threshing machine, for instance, can be made to triumph still more than it has already, by separating one or two hundred bushels of wheat per day from the straw. And the horse-rake is growing, and can continue, by care, science and experience, to grow, still better in shape and material; and is one of the modern inventions destined, probably, as more used, to be among the very greatest in profit; because it is beneficially employed in harvesting an article which, humble as hay may be in the estimation of many, is yet the most valuable in New England husbandry, and, next to wheat and Indian corn, the most valuable in the Union, outstripping, by one-third, even the mammoth product of cotton.

Reaping by machinery and horse-power is likewise making rapid progress; and, by care to have the profits of it known more widely, bread, the great staff of life, will yearly be made to cost less to all, and especially to the toiling millions. Approximating more such beneficial results, by other machines, when not done already, will, ere

long, be accomplished by the farmer, as their utility is demonstrated; and this, however slow he is generally to change. Let it be remembered, too, that in agricultural improvements, and the greater use of iron,—that most faithful servant of man, and the best witness, by its abundant employment, of a high civilization,—must be one chief agent, entering more and more into tools and implements, on account of its increasing cheapness, no less than its superiority in durability and strength. Let it be remembered that coal is to be another more used and improving agent, not only for warmth and cookery, but to feed the all-devouring appetite for fuel of the steam-engine, and for gas, more and more, to light our cities; and salt, another, not only for a condiment to man and stock, and the preservation of meats, but for manure on many soils, and for many plants. What more may be done, likewise, by electricity, as an instrument or manure, in advancing vegetation, is likely to become one of the most useful inquiries connected with that remarkable agent. Let it be remembered, too, that all the powers of chemistry should be more invoked, to aid in the discoveries of new manures,—as she has lately in bones,—turning them up, for instance, on the field of Waterloo, for agricultural use, rather than only, as in the anticipation of Virgil, on the field of Philippi—

> "The farmer, laboring with his crooked plough,
> The rust-corroded javelin shall find,
> * * * * And, with wonder, view
> The giant remnants of the broken grave."

She can also aid still more in ascertaining the most useful ingredients in all manures, and in preserving and applying them in the best manner. It will surely be much better to have them enrich the field which is to grow crops, than float off to the ocean in water, or be wasted by evaporation in the air.

The valuable assistance of chemistry is also needed more for the discrimination between the different manures suited to different crops, which is so indispensable to much success; no one dressing or mixture of soils being a triumphant panacea in all cases, any more than was Dr. Sangrado's bleeding and hot water in all diseases. The sandy plain, for example, does not demand more sand, but clay; and, of course, the clayey surface does not need more clay, but sand. To any field much exhausted of its silex, in forming the hard stalk of wheat, rye, barley, oats, or some of the grasses, requires more silex; and, for the pea or bean, more potash must be added to the soil, where that ingredient has been used up. It is well known that some plants, like the rattan and cane, absorb so much sand, that fire can sometimes be struck from them, as from a flint; and that the whole color and beauty of the rose comes from its iron. It is this striking feature in nature, supplying different food to different plants, as to different animals, which, without cultivation, causes a succession of different trees

on the same soil,—as the pine and birch after the oak,—because the earthy particles suited to support the latter have been absorbed and exhausted, while those to nourish the former still remain. This furnishes, in part, also, the true philosophy and guide to enable the farmer, by more careful discrimination, to produce a better rotation of different crops from the same field; a practice known to some long ago as the age of the Roman Georgics, but imperfect then, as it often is now, from ignorance of the true reasons for it. All farmers are likewise admonished, at times, that too much manure is used for some crops, though the most common error is the other way — in applying too little. Since the employment of the more concentrated manures, like poudrette and guano, their easy and lavish use often makes plants grow too rapid, and too high, for their strength; and thus, like some mushroom politicians, they are apt prematurely to break down.

Next in importance, for its influence on crops, and deserving still more attention than heretofore, is a proper degree of moisture. Water being the medium for supplying much other matter to vegetation, and itself constituting a large portion of the weight of most plants and fruits, — amounting from ten to fifteen per cent., even in the dryest and hardest wheat, — it should be more and more an object to regulate moisture well. One of the secrets of nature, in often producing much on a soil with a sprinkling of small stones, — one of her beautiful compensations for an apparent evil, — is the greater moisture retained by means of them; most of our best natural soils, when analyzed, being found to contain from seventy to ninety parts, out of a hundred, of siliceous matter. Granite scales or debris, scattered sparsely over some fields, will increase moisture, by preventing evaporation, and will enrich them like a fertilizing manure; and some other rocks, like gypsum and lime, independent of their peculiar virtues, operate in a like manner, rather than, as once said, by a few, of lime, "burn up the land." If the granite decompose any, it will enrich, also, by its potash, so indispensable to the perfection of some plants.

Irrigation is another means to furnish additional moisture, where needed; and though some employed ever since the days of the bard of Mantua on his paternal acres, it might be still more, with much advantage, as might a more free use of straw as a dressing; and as might deeper ploughing, independent of any aid from Professor Espy to create showers artificially. While, on the other hand, where greater dryness is desirable, it will be useful hereafter to look more to shallow ploughing, and to practise more the ditching and draining which are so well known to be the great instruments to remove surplus moisture, and thus increase the quality of the crops, warm the soil, and improve the health of all near, instead of leaving them to breathe out a brief and feverish existence amidst deadly miasma or malaria.

Much is yet to be accomplished by closer attention in using the best seeds for planting and for fruit; and the increase of the latter for food, already great, can be made yearly a greater source of wealth and

health, and presents, in the apple, so abundant and useful, as well as delicious, when carefully grafted, some apology for the original sin of eating it when forbidden fruit.

What a field, too, is now opening in Florida and Texas for the production of some of the rich tropical fruits, so conducive to health when temperately used, and always so genial to the taste!

But, above all things, in encouragement to agriculture, we must be cautious to make every improvement simple, plain, easily intelligible. Time and money should not be wasted on what is complicated, as such machines are not suited to the taste of farmers, and much less can they be made useful in the hands of unlearned laborers and boys, who attend to most of the arduous duties of agriculture. A farming instrument, which should possess the numerous parts and complexity of Bigelow's invention for weaving carpets, would be generally as useless as the fifth wheel to a coach, and well deserves "the thorns and briers of reproof." Any change, likewise, which is very expensive, cannot much benefit agriculture at large. It may be within reach of the wealthy—a patrician few, who sometimes usefully patronize her laborers, rather than labor themselves; but the masses, who worship daily in her temple, with the skies for their canopy, and the earnings of personal toil for their reward, or those who, though "lords of the soil," cultivate with their own hands, like the Roman Cincinnatus, their small freeholds, cannot afford large extra expenses or large advances, and look chiefly to yearly returns for yearly outlays.

Farmers on such a moderate scale deserve, also, more encouragement, as more can thus live in independence, as the mind of labor is more exercised and elevated, as it cherishes more self-respect, and as capital and labor are thus more closely united in one common interest, and their efforts are more identical, rather than hostile. Personally grasping all their own concerns, such farmers understand them better. And, however pleasant it is to behold many broad acres and vast crops belonging to a single establishment, and however profitable it may be made at times, it will be found wiser for most of our people to cultivate less in quantity, and better in quality, and thus adopt the advice of the agricultural poet—

> "Praise the large farms, but cultivate the small."
> "*Laudato ingentia rura, exiguum calito.*"

The observant mind is also to be more encouraged. It must be more stimulated to watch changes in temperatures, in winds, in seasons; to journalize important facts and experiments; to improve occasions, and draw useful hints from all sources around it.

The farmer is almost a different being, and especially in this country, from what he was in much of the world two centuries ago. He has long ceased to fear poisoning his ground and crops by manures. He has, and by our systems of free schools more extended, and of

cheap printing increased, he will continue to have still more intelligence to improve in everything. He is not now a mere machine of bone and muscle. He is a ruler, and not merely the ruled. Instead of a serf, he is a capitalist, a freeholder; and who cannot become one amidst our boundless public domain? He is, in short, a thinking being, a reformer, a man of reading and experiments, and not

> "chained to one peculiar spot,
> To draw nutrition, propagate and rot."

Philosophy, even, will aid such a mind, the more she herself enlarges her discoveries, and will excite many new reflections, and open a door to many agricultural improvements. Take, for instance, such facts as that recently established in respect to the Gulf Stream, that when flowing near lands it sensibly influences their warmth and moisture, so that, from this cause, certain grasses and grains will flourish, and others fail, in some places, in some latitudes, which will not happen in other places alike, north or south. As heat, moisture or prevailing winds, differ permanently in the same latitudes, which they often do, from more or less proximity to the ocean, to lakes or to mountains, or from elevation more or less above the ocean,— without enumerating still other causes,— different crops must be resorted to, and many different rules or laws in rural economy must be relied on, almost as much as in latitudes entirely different. Thus, of China, a writer says, that "terraces of earth are piled upon the sides of its rocky hills, one above another, to the very summit. These are tilled, and each supports the vegetation of a distinct climate." And, as to different latitudes, it has justly been observed, that "the sun does not shine upon two degrees on the surface of this globe the vegetation of which is identical, for every latitude has a Flora of its own."

If a part of this savors of what some decry as "book farming," yet its foundation-stones are observation and experience; and while I am willing to concede that books alone cannot make good farmers, and that mistakes are sometimes committed by scientific men in the analysis of soils and plants which cause much disappointment, yet books frequently aid practice, and suggest improvements the most valuable. Especially is this done by agricultural newspapers, with which our enterprising country more and more abounds,— improving, too, in quality, as science is more readily applied to advance the arts. Indeed, the whole press, with all its wide-spread influence, is, and can be made still more, a liberal patron to agriculture, no less than manufactures and commerce, by spreading to all points of the compass the news of every remarkable product, every useful invention, every rare voyage; and many a heart can be thus stimulated to further and successful exertion in these great pursuits.

Agricultural schools, connected with model farms, possess, likewise, one advantage over all other teaching, to the few able to attend them. They unite experiment with theory; and each is thus enabled at once

to reciprocate benefits, and pour floods of light over the other, in developing the mysteries of nature. May, therefore, the great and unflagging interest which has been exhibited by this Institute in behalf of such a school, associated with such a farm, be crowned with the success it so richly deserves. The General Government, too, having at last organized a Home or Interior Department, will not be just to the expectations long entertained by the public, unless the promotion of agriculture should be made one of its chief objects, and the patent office relieved from one of its recent and well performed, but anomalous labors.

Passing from the means of further progress in agriculture to those in manufactures, it is manifest that greater prospects of improvement would be presented hereafter in them, if it was not that, so much has of late years been done, more seems hardly practicable. But who can fix limits to human ingenuity, or set up boundaries to the new uses of science in the arts? The very fact that the careful application of science to the arts is comparatively in its infancy holds out encouragement that it is destined to accomplish much more in their advancement. It can take higher and still wider flights, if all unite, like this Institute, in cheering it onward, and in lending the smile of encouragement to what is scientific, and at the same time practical in assisting the business affairs of life.

A striking illustration of what more may, perhaps, be attained by labor-saving machinery and other scientific improvements is developed in the progress of the manufacture of cotton; one man in England, within twenty years after the great inventions in spinning, having been able to perform one hundred and twenty to two hundred fold what could have been done without them; and in the next forty years there was performed with them what would have required, without them, fifty millions of persons; and in seven years more — that is, in 1833 — eighty millions, and now, probably, over a hundred millions. By continued careful attention, it is doubtless destined hereafter to advances similar in rapidity beyond what now exists here; and of this we have had strong evidence in a spinning machine at the present exhibition.

There is another mode of illustrating this change, and the grounds of hope for still greater improvement, aided as we are, and stimulated, rather than satiated, by those already made. Thus it has been remarked: — "Even at the present day, the Hindoo, seated on the ground, with his legs in a hole, and the weft of his muslin tied to the branches of a couple of trees, throws his shuttle with a skill that, in the end, produces the most beautiful muslin or calico; but yet, such is the superiority obtained by the use of machinery, that the cotton grown on his native plains can be brought ten thousand miles, cleansed, spun, woven, dried, packed, and carried back again, and then sold in the province where its woolly fibre first silvered the bud, at a less price than that of the cloth produced by the Indian artisan."

All with us are more and more alive, active, moving onward, improving.

The mechanic and the machinist — in brief, every person engaged in manufacturing here, from the humble boy that tends the picker, to the presiding genius over a brick palace, with its thousands of spindles, on one of our beautiful water-falls — all, even the female eyes which, far away from their mountain homes, watch those busy spindles, are now and can be made more instinct with new mind, and a new ambition for further excellence.

The laws usually secure to all of them some of the advantages of free schools and limited hours of labor; and to him who tends the loom or wields the sledge, no less than him who fills a learned profession, the doors of wealth and office and honor are flung open wider, yearly. If true worth, then, be better encouraged in such men, and their minds made more enlightened, — as is the constant tendency of the age, and of our American institutions, — they will seize quicker on all mechanical improvements, and bring continually more and more intellect and science to their aid.

But in no department of business can greater advancement be made hereafter than in this, by increased information as to the past. In manufactures and the arts, much expense and many years of toil have been wasted in making inventions of what already existed elsewhere. Without more information as to the past, genius is constantly devising valuable machines; but, when applying for a patent at the proper office, or, having obtained one, when applying for protection to their rights in a legal tribunal, such persons find themselves forestalled by some prior artist, and all their toil and expense thus wasted in vain — as they would have been saved by examining more fully, beforehand, cyclopedias and works of art on the same subject. Thus, for instance, in 1847 alone, five hundred and fifty-seven applications for patents were rejected, and many of them for this reason. Usually, the annual rejections, since 1836, equal in number the grants; and of the grants, several are yearly proved in the courts of law not to be original, and therefore become void. These vain labors and expenses could, by this fuller examination previously, be better directed, and thus, beside discovering earlier what of value has been already invented, would invent other improvements, really new, and add much to the existing stock and capital of the mechanical world.

Another means of more progress in manufactures, especially in dyes, in cookery and food, is to make chemistry still more tributary to the arts, till, like the invention and more extended use of chloroform, in medicine, is gradually introduced in more things perhaps an entire revolution.

It probably was chemistry, more than any other science, which, within a half-century, has literally so extracted light from darkness as to make coal the great agent for illuminating our cities and various private establishments with all the brilliance and steadiness of gas.

And it has been well remarked, that, in less than another half-century, like efforts of science may, from this step, by due care, take a still higher flight in utility, and in glory to the inventor and the age, by using electricity for a like purpose, and with all the harmlessness of gas itself, and all the brightness of a noon-day sun.

Much improvement can be made in saving fuel in fireplaces, ranges and stoves, as has been already so wonderfully since Franklin attempted his, and Count Rumford experimented in both fuel and cooking, for domestic comfort and household economy. Indeed, repeated, cautious, severe experiments, like theirs, — the *experimentum crucis* of Lord Bacon, — as to all novelties, before they are adopted, can be made a great instrument of safe progress, and, in this way, a common error be escaped, of deeming everything new an improvement, when it should be only everything new that is able to bear well the test of trial. Observation and calm reasoning must accompany all this; and the benefits from them have seldom been more strongly evinced than in substituting the hot for the cold blast in the manufacture of iron, saving from one-third to one-half the expense; and, if like attention shall be made here to other improvements, and especially the use of anthracite coal, in that business, we may, ere long, with our vast mineral resources in both articles, make iron for half a world.

Then, if not now, this dark metallic stone will be found to come near the true philosopher's stone; and, if not turning all it touches into gold, will be far more useful than gold itself.

If we do not add to it, also, the manufacture of steel, permanently and beautiful, I shall be much disappointed, from the fine specimens exhibited to-day from New Jersey.

Another great improvement in machinery will be in the economy of power to move it.

Judging from recent improvements in imparting motion to it, much more can yet be accomplished, without relying greatly on gun-cotton, or gun-powder, or on air-vacuums, but merely by increased attention and science in using, in a more effective manner, our numerous and beautiful water-falls, as well as reservoirs, and resorting oftener to the standing or stationary steam-engine. The water-fall, sustained by the reservoir, exhibits in nature almost the beau ideal of that perpetual motion so long sought in vain in the world of mechanics.

The self-acting machines, that seem almost with mind and thought to perform combined motions and complicated functions, by one continued operation, — such as that for turning lasts and gun-stocks, that for making pins, that wonderful one for making cards, without enumerating others which crowd your interesting fair, — are rapidly increasing, and will, ere long, form a new era in the arts.

Again, the protection yielded by the constitution to inventions and discoveries in the arts will prove an additional encouragement, and be much increased by more reforms in the patent system and patent laws. A most opportune occasion has arrived, and been improved, to place

the whole in a more appropriate charge, as in that of the new Interior Department, rather than of the State Department; and the change already made would be rendered still more effective. And whenever real inventors shall be more fully secured, technical objections obviated by express legislation, and piracies on their hard-earned labors punished at less expense, and suitable protection given for new and useful applications of old machinery, as well as for inventions of what is new, an encouragement will at once be felt by inventive talent which will soon add much to the treasures it has already secured in this ingenious country. In any event, it can and will make further advances. Nothing can chain its powers. It can wisely expand its energies more to help what is most rather than least deficient,— to improve what is most rather than least important,— to advance what will be useful rather than frivolous or trifling, and useful to millions rather than a few. Genius thus employed, when not duly protected by legislation, or rewarded by gain, can, and, thanks to a kind Providence, will, often find its own great reward in the consciousness of its own noble efforts, and in that honest fame which cheers onward many of the benefactors of the human race.

In truth, often new discoveries, instead of disheartening us as to making more, should prove an encouragement, by being new steps to mount higher, or by being only one stage in the growth or development of the whole tree. After obtaining the fifteen to sixteen thousand patents which have been issued here, American ingenuity is so little exhausted or daunted by the difficulties it encounters, that yearly near fifteen hundred new applications are still made, and from two to five hundred granted. It must be gratifying to this Institute that the State in which it has long assembled appears to have the lead in inventions, taking out quite one-third of all the patents allowed annually; and that the remarkable proportion to this city, which is more immediately influenced by its exhibitions, is near forty-five per cent. of those granted to the State, and fifteen per cent. of all those issued to the whole Union.

Commerce, last, though not least, opens likewise a wide field for additional improvements.

By continuing to spread it over every portion of the globe accessible to sails or steam, we shall be likely to get more into the heart of new governments, like the centre of Africa through the Niger, or like many islands yet unexplored in distant oceans. We may thus discover new articles of trade, or of food and clothing, or new arts or new markets; or win the glory to introduce literature, civilization and a true religion, where they had never before cast their cheering radiance. The Exploring Expedition followed up; the track of our whalemen pushed with more care, as dangers multiply; the survey of our thousands of miles of coast completed; our ocean and lake borders furnished with still better light-houses, lights and reflectors; more treaties formed, binding nations more closely together for mutual trade; in

short, peace more cultivated, so as to render all more friendly, and hence all more prosperous; — these will gradually insure large advances. They will make commerce actually what she has been called figuratively, "the golden girdle of the globe."

We shall thus be able oftener to carry with us, and to more countries, not only our spinning-frames and our looms, with their useful products, but, what has still greater charms for patriotism, our school-books and Bibles, and free constitutions and equal laws, and to obtain in return, it is hoped, some other, if not so great good. One of the anticipated benefits from these causes will be the wider diffusion of American principles. It is not that commerce ought to be used to propagate political principles unacceptable to other governments, by whom it may be hospitably received, — and thus, as once in China and Japan, cause jealousies even of our holy religion, when accompanying them, and terminate in the violent expulsion of both, — but that one of the inevitable consequences of all foreign commerce is to bring opposing opinions together, and to give, in the end, a mastery to the best. Such, too, is the zeal of our people in behalf of their principles, civil and social, no less than political or religious, that wherever the American stars float, whether over the Atlantic or Pacific, or Mediterranean or Baltic, American opinions and American notions, as well as American products, will become more and more known; and it surely cannot be regretted by ourselves, if, by increased commerce, and without fire or sword to propagate them, they should more win their way to favor, create new tastes, and often revolutionize the public mind, and gradually reform the governments born in ages more dark and unpromising.

What we have seen already, in late years, shows how much American influence and character in commerce can be improved still further, by increased temperance among seamen, increased attention to their religious instruction, and increased education diffused among them. Respectability and integrity will be more firmly secured in our commercial intercourse, by every advance in these; and, as they beget more confidence, they will beget more business, and make our mercantile marine, as well as navy, be regarded with favor in other hemispheres, even under other planets and stars to canopy them. This moral power, thus increased, will also yield greater protection to all under the American flag; and our own people will feel less inclined to disregard a decree of one of our humblest courts, though reaching them in the furthest islands of the Pacific. Any of the crews of our whalemen and sealers, if not of the "sea-lions" fitted out by Cooper and Deacon Huntington, must, by these causes, and increased care and certainty in executing the laws, be made more and more sensible that he is as sure of redress for wrongs, or of punishment for crime, on his return to New Bedford or Stonington, as if a marshal was at his elbow in Palmer's land, or a judge was holding his sittings in the cabin of the whaler. Aided by all these ameliorating influences, this invisible but almost omnipotent power of the law will, by commerce, move on

more steadily, and ere long will be felt in the darkness and distance of remotest seas, almost as strongly as under our own eyes, in the streets of this great metropolis.

Beside the progress in foreign commerce, tending so much to improve and make a brotherhood of all people, what vast advances can, by proper attention to the subject, be made in the internal commerce of a nation which possesses the immense territory of ours, with rivers running through fifteen to twenty degrees of latitude, and with inland seas, covered by steam and sails, to accommodate millions on and near their borders!

See not only the steamboat thus penetrating wherever navigable water flows, but the railroad car disturbing the slumbers of our mountain ravines, carrying its shrill whistle through almost every village, to increase the blessings of commerce among all who repose under the banner of our hallowed Union.

I enter no debatable ground as to whose expense great internal improvements should be made, under the restrictions belonging to our political systems; nor whether much exists in such objections as I once heard in the Senate to removing a sand-bar at the mouth of the Mississippi,— the great Mediterranean Sea of some eight or ten sovereign States,— that "it had been placed there by God and nature, and hence should remain;" nor to what particular localities they ought to be applied, except that they be those of national importance to foreign trade, or to internal commerce among the States. But this question will be one of diminished magnitude hereafter, as the enterprise and capital of our people have at last attained such a giant growth, that where a prospect of remuneration exists, whether with or without public aid, mountains will be tunnelled or cloven down, valleys filled, rivers bridged, sand-bars removed, and harbors excavated. Already have the iron rail and steam-horse pierced through the spurs of the White Hills,— though sustained only by private means,— overcome, in like manner, the ridges of the Green Mountains, and are fast approaching, nothing daunted, the Alleghanies; and seek a passage through the gorges of the Rocky Mountains, even to the Pacific, without fear or faint-heartedness, if but backed by grants of the public domain, which, thus applied, under proper guards, are certainly, in the end, most likely to enrich the donor most. Our length of railroads, already opened, exceed sixty-five hundred miles, or those of Great Britain by more than half of all hers; and should one be extended from the Father of Waters to the mouth of the Columbia, it will, at its great dépot on the Mississippi, as some have computed, be not over two and a half days' travel from any of our large cities, and not over twenty-five from any such city on the globe; thus promising to become the great thoroughfare for much of the commerce of Asia to both Europe and America.

But, as this whole country cannot possess railroads to every farm-house and workshop, the common highway must be made oftener to

succeed the bridle-path; the turnpike, the highway, and, on most soils, the plank road, the turnpike; the ferry, the ford; the bridge, the ferry; the light and scientific bridge, the clumsy logs of old, in order to improve more the commercial intercourse among towns and counties, even in the newest regions. Till these are accomplished, we should no more remit exertion than we have to carry a bushel of meal on a horse better than with a stone in one end of the bag to balance it in the other, or to use the draft of oxen by their shoulders, rather than their horns or tail.

Science is daily pouring over commerce, no less than manufactures and agriculture, more of the blessing from its beneficent discoveries; and cannot but increase further the safety and size of it on the ocean, by the progress making in more accurate astronomy, — in instruments for distant observations, and in skill to calculate them, — in knowing better the influences of magnetism, and other substances, on the needle,— in learning more carefully the causes and courses of winds, storms and currents, and in protecting vessels more fully from lightning, and the havoc of infectious disease. Charts, as well as surveys, can be more improved, life-boats forced more generally into use, and accidents in steamboats be more cautiously guarded against. The vessel itself, already so perfected in beauty and strength, from rude plank tied together with hide thongs,— as now near Behring's Straits,— and from the unwieldy Chinese junk, little better than a raft, and little safer than the distended goat-skins of the Euphrates, or the bulrushes of the Nile, or the birchen canoe of the Indian, can still more be improved here by timbers better selected and seasoned,— by forms better suited to insure speed and strength, and by cordage and sails better fitted to withstand the strongest gales. We must look, also, to the increased use of iron, in navigation, no less than all the arts, as one sure means to attain greater strength, as well as economy; encouraged by what has already been effected in commerce by the iron beam and knee, the iron pillar, the iron cable, the iron anchor, the iron rail, and iron locomotive. Every new article of much trade can also, in time, be made to contribute largely to the prosperity of both domestic and foreign commerce.

Thus, cotton and coal, and lead and gold, furnishing no freights here a century ago, are becoming the most valuable, as well in the coasting as the carrying trade; and the first three are already here mines of wealth to the commercial world, no less than to the arts. By increased rapidity of communication, through means of new forms to vessels, new routes or tracks, new knowledge of winds and currents, no less than by the new powers of steam and the magnetic telegraph,— speeding so marvellously the intercourse between inhabitants of separate as well as the same countries,— we shall yearly bring the whole earth into a narrow compass,— almost annihilating distance,— making nearer and better neighbors of most of mankind, — and enable all to improve by all, with a rapidity scarcely yet dreamed of.

Beside these special teachings, by the great schoolmaster, time, to

assist still further progress in each of the industrial interests we are anxious to promote, there is a general and striking lesson inculcated as to all equally, by their tendency, already shown, to advance each other, when exercising coöperation and mutual encouragement. Their harmony, their friendship, and assistance to each other, must, therefore, be more promoted in future, as one of the surest guarantees of further progress in all of them.

This will prove, also, one of the strongest means to elevate higher the condition and multiply the numbers and riches of the whole human race. We have already seen that by increased skill and improved implements in agriculture the means of food have become cheaper and far more abundant, so that many more millions in manufactures and commerce, no less than agriculture, are able to be sustained, and all in a better manner. By like increased skill and machinery in manufactures, aid is not only given to agriculture by superior tools, but myriads more in all pursuits can be well clad, and at less expense. From these improvements, combined with some others of a medical character, the bills of mortality in several countries exhibit fewer deaths in the same number nearly by near one-fourth. And, by like causes, commerce has contributed to like ends, and can do more hereafter for agriculture and manufactures, by transporting for them at a much lower rate everything bought and sold; and thus, at the same time, can maintain more widely the more frequent intercourse among the great family of nations, which in all ages promotes so much the progress of civilization and peace. Indeed, continued or further progress seems imprinted deep on all these important branches of industry, as a part of their natural destiny, and as strongly as are imprinted the footsteps of Deity on earth, ocean, the heavens, on even the marvellous shell and flower. Because every improvement added to them makes them more powerful to advance still further,—imparts new strength or means,—and should animate rather than discourage future efforts.

To conclude, in respect to the future encouragement of the whole of the great branches of national wealth, it may be well to attend more to increased beauty in all things connected with them. This can be made a means of attracting to all greater regard, and consequently more attention to improve them.

It has been justly remarked, that "it was a deep and beautiful fancy of the old painters, to crowd the back-grounds of their pictures with angels' heads and wings, and thus to surround their subjects with an atmosphere of love and beauty."

If beauty be not the lever which moves the world, it is generally a powerful loadstone to attract it. Thus the sailor is attached to his craft, as to a beautiful woman, when smitten by her graceful masts and queen-like movements; and every American is justly proud of the superiority in appearance of our own ships, usually, over the darker and clumsier vessels of Europe and Asia. So the mechanic exhibits, with gratification, his polished tools, his beautiful buildings, and his

elegant fabrics of cotton and silk, rivalling for common use what once adorned only royal forms. And the farmer, though brown with toil, enjoys and points gladly to his blooming orchards, his luxuriant gardens, enlivened by the music of his bees and birds, and damasked with flowers of every rainbow hue,— to his golden harvests, his smiling pastures, his waving woodlands, his picturesque hills and dales, and silver brooks or glassy lake, bordered by fleecy flocks, noble bulls and finely-formed horses,— till the whole landscape brightens into one more enchanting than ever Claude Lorraine's or Doughty's; for "who can paint like nature?" And amidst this, and by this, he is animated with all the ambition to improve further which distinguishes the most aspiring artist or poet.

There is a beauty, too, in life itself, in all these pursuits, which should still more be sought out and cultivated, and thus still more endear them. For though the strong arm of the husbandman may not have idly buffeted the surf at Newport, nor his lips have sipped in luxury the sparkling fountains at Saratoga, yet he will, in time, learn more and more not to envy others thus employed, if left himself to indulge in the healthier and richer enjoyments of the haying and harvesting of the north (finding even labor a pleasure); and in the admiration of Nature's beauties, and all her marvellous works around him; and in the heartfelt welcome at home, by wife, children and friends, on his return at dewy eve; and, in the cool twilight, satisfaction of reading news from all quarters of the globe, and gathering from books useful knowledge, as well as sound morals; and in expressing thankfulness to Providence, under his own roof,— his castle, in our free country,— for his fortunate lot of liberty and independence, over the slaves of despotism in less favored lands.

"*O fortunatus nimium, sua si bona norint agricolus.*"

The mechanic and manufacturer, by cultivating a taste for like habits and reflections, must be able to participate more and more in some of these enjoyments; and will find all the nobility of their nature more excited and gratified as becomes men, by taking an active part in the agreeable business of self-government, in attending the polls and the debates of the stormy forum, and in helping, as jurors, to administer "the stern decrees of law." The children of commerce, likewise, though not without anxieties, find many beauties and pleasures strewed over their paths, as the sailor, however rough or hardy, gazes at times on the sublimity of the deep blue ocean with rapture, and, after the vicissitudes of calm and storm, hails a glimpse of land with an exultation which makes him forgetful of all past danger. And the merchant, for whom he freights riches from every clime, amidst some fluctuations in fortune, often enjoys a prosperity which opens new avenues to happiness, in making munificent donations to public charities, in adding to his country public buildings of architectural splendor, and in becoming

inspired, like the Lorenzo de Medici, to fill the marble palaces where are treasured his household goods with furniture still more chaste and classical, with books more practical, and with richer paintings and statuary,— even American statuary, which may rival that of Phidias or Praxiteles.

By cultivating pleasures like these, and a love for all which is or can be made beautiful in these pursuits, no doubt exists that the aspirations for excellence in them will become constantly stronger.

A single other suggestion, which belongs to the encouragement and protection of all these kindred pursuits, and I have done. It is to treat them all with increasing respect.

> "Let not ambition mock their useful toil, —
> Their homely joys and destiny obscure."

Labor must be more and more regarded as honorable in all. Whether in the scorching field, or the workshop, or on the vessel's deck, honest labor must be protected, its rights guarded, and, as is done by your association, its productions greeted with an encouraging welcome.

In this way, the march of all the great industrial pursuits among us will be likely to continue onward; and we shall enjoy the high satisfaction of doing something, in our day and generation, to promote their desirable progress.

ON GARDENING.*

LADIES AND GENTLEMEN: — The subject of Natural History, which is the great object the society here convened seeks to promote, is one of wonderful variety.

Without neglecting the smallest work in nature, it embraces the largest, and ranges from the insect to the mammoth, — from the composition and uses of the mote in the air, to the mountain, which divides continents, and cradles in its valleys the longest and mightiest rivers, — and, indeed, from the beauties of the retiring modest flower, which adorns the wayside, to the rich fruits and nutritious seeds on which nations feed, and without which much of animal life would perish.

Among its interesting and vast themes, I propose this evening to submit a few remarks on one very lowly and humble, but highly useful — it is Gardening.

The business of Horticulture and Gardening is the same, though the former is sometimes applied, in common parlance, rather to what is deemed ornamental than useful, and more especially to the rearing of flowers. But I am too much of a utilitarian in everything to surrender, as a legitimate object in the lover of horticulture, the pursuit of profit, as well as pleasure; and, though entirely willing that some should receive a part of the income from their gardens in recreation and health, yet it does not seem to me derogatory to taste or business, or to deserve "*the thorns and briers of reproof*," if they seek for their expenditures and labors some pecuniary returns, in rich fruits, nourishing roots, and other healthy vegetables, for the tables of themselves and their friends. From the language used as to keeping and dressing the first garden of our race, it seems to have extended to all those objects; and short of this it certainly would not have been either so useful or attractive, — surely not the paradise which tradition, in all ages, has delighted to paint it. The horticultural exhibitions in Massachusetts, for instance, embrace whatever is rare or beautiful, or of mammoth size, in vegetable, fruit or flower. Let us consider horticulture, then, as including everything usually within the scope of gardening, and proceed to ascertain how much connected with it, looking to our means and climate, should properly receive attention, and how we can best promote what is appropriate for our condition.

It is hardly necessary to say, as a preliminary remark, that a knowledge of botany, mineralogy and chemistry, will always much aid

* An address delivered before the Horticultural Society, Portsmouth, N. H., 1849.

the gardener in all difficulties concerning the soil he uses, the plants he cultivates, the flowers he rears, and the best means which science can help to develop for increasing their vigor and beauty.

But, without going into details in respect to these, my remarks this evening will be chiefly confined to practical views and suggestions connected with a subject so useful to practical men, and which may be pursued so profitably and agreeably even by those not much scientific.

It is certain that we do not generally possess the means, nor is it necessary, for want of other suitable sites, to make hanging gardens, like the ancient Assyrians, or floating gardens, like the Mexicans. Nor do we so need the plants or fruits of equinoctial latitudes, however lovely, as to require large conservatories or hot-houses to raise them, as if by magic, whether for pleasure or gain; though overgrown wealth, near Boston and New York, may continue, under our cold skies, for profit as well as luxury, out of season and at great prices, to cultivate the luscious grape and pine-apple, the fig, the orange, or rich nectarine, and other varieties of more genial climes. But it would not be wise to encourage this as a part of the business of the masses of horticulturists in places where the winter lasts nearly six months of the year, and "thick-ribbed ice" forms from one to two feet in marble hardness. Even the hot-houses of Andalusia, near Philadelphia, could hardly maintain their expensive fuel, however delicious the Hamburg grape reared in them. The only plausible exceptions which seem justifiable here are to force a few plants for pleasure in the parlor, or to start some to transplant which require a long season, or to cultivate specimens preserved from remote regions, as matters of medicine or science. The latter is generally done in public conservatories. Such has been the course pursued with some of rare beauty, brought home by the late Exploring Expedition, under Captain Wilkes, whether obtained in gorgeous India, or plucked from a native wilderness of sweets in some of the balmy islands of the Pacific. Of this kind of collection, however, we have nothing yet in this country that will compare in extent or variety, for public and scientific purposes, with the Garden of Plants, in Paris, and some others abroad; nor can individual private means ever be expected to rival here what usually is there sustained only by large public grants, or royal munificence.

Horticulture among us, however, may well be extended to the flowers and fruits suitable to our climate in the open air, and to ordinary plants for medicine and seed, as well as all the varieties of culinary vegetables which grow in this northern latitude. There is much to recommend all these.

There is fragrance, as well as beauty, in the flower; there is a charm to the palate and the eye, as well as nourishment, in the fruit; there is health in the herbs cultivated by our mothers—the sage, the peppermint and the rue, as well as in some of the more modern plants reared for what is called "botanical medicine;" there is profit, too,

in the seed of the nursery; and there is subsistence, no less than profit, in the early potato and pea, the corn, the bean, and hundreds of other garden products, which help so richly to load our tables, and gratify the sight.

All these, united in horticulture, concentrated in one appropriate spot, variegated with shady walks and sunny openings, freshened by a babbling brook or sparkling fountain, ornamented, it may be, with statues of Ceres or the Dryads, and with moss or shell-covered grottoes, and animated by the true garden music of the bee and the bird, —all these will make it the most like a paradise of anything which has survived the fall.

And, when I say this, I do not exclude "wife, children and friends," but consider their presence, to participate and enjoy, as necessary to give the crowning zest to all.

Indeed, as I have once remarked elsewhere, in respect to improvements in agriculture, I would now add, even more emphatically, as to gardening, an increased attention to beauty in all things will prove a great attraction, and a vast stimulus to higher progress.

Beauty in shrubs, beauty in trees, beauty in gravel-walks, beauty, above all, in flowers, are loadstones to make every wandering foot turn more near to home; and the charms of flowers not only thus cheer infancy and age, adorn the festive board, and fit the bride with more winning grace, but soften the sadness of the grave, as planted around it, and recall the virtues and loveliness which sometimes sleep beneath.

No one who has had the taste to form and enjoy such a garden need ever be feared to undervalue domestic life, home enjoyments, or purity of conduct, and not to cherish an abhorrence of all that is coarse and corrupting in social intercourse.

It is as difficult for such an one to become a gambler or tippler, or mere ale-house loafer, as for the leopard to change his spots; because, by such a graceful retreat, such a recreation and delight, as a well-ordered garden, his heart, no less than mind, becomes attuned to all which is pure and beautiful; his communion is more and more, not only with nature, but upward, to nature's God; and his whole being's end and aim are elevated, and more like those in the infancy of our race, before temptation and sin cast their blighting curse over all which was fair and lovely in creation.

If real religion is not inspired by this, all around the gardener is full of a present Deity, speaking trumpet-tongued to every beholder. Cowper beautifully and truthfully says:—

> "Not a flower
> But shows some touch, in freckle, streak or stain,
> Of his unrivalled pencil. He inspires
> Their balmy odors and imparts their hues,
> And bathes their eyes with nectar, and includes,
> In grains as countless as the seaside sands,
> The forms with which he sprinkles all the earth."

It will thus be seen that gardening is an improving and moral pursuit for all. So is it appropriate for all. Many are apt to suppose that it belongs more especially to woman. She may well, as hereafter explained, for health and pleasure, participate largely in it, and particularly in the floral branch.

But gardening, mingled with other business, or as a separate vocation, is fit for man, no less than woman; fit, too, for "high-minded men," and those in the loftiest as well as lower stations. It is a further mistake, often indulged in, that if men partake in this pursuit, it is only persons of much leisure, withdrawn from the cares and turmoils of life, like Cowper or Shenstone—only sentimentalists or poets; yet, among the most splendid illustrations to the contrary was Sir William Temple, dragging to foreign courts in diplomacy only a lengthened chain from his attractive garden, and, when dying, directing his heart to be buried in it, in a silver box under the sun-dial; and our ever-memorable first President, though "first in war, first in peace, and first in the hearts of his countrymen," had leisure and taste to cultivate, at Mount Vernon, one of the largest gardens, and leave behind him one of the most choice collections of hot-house plants, of which any private gentleman in the country could boast.

None of us, then, need feel ashamed to take a deep interest in this pursuit, and seek out the best information from all quarters for its advancement.

It will be useful next to consider the general preparation for the different departments in horticulture which are suited to our climate and private means. It should be nearly the same for all of them.

There must first be ample space, if means and opportunity exist; though, rather than be without a garden of any size and design, I would cultivate a spot of only ten feet square, or a box full of earth, or merely the contents of a broken tea-pot. A garden should also be situated near the dwelling-house, in order to insure convenience and comfort in easy access to it. There should be a rich and light soil, because a poor one stunts the plant, and a heavy one cramps or clogs its fibres; yet it deserves notice that a soil may be made too rich, as has been the case often in the modern use of guano, so that the plant gets too much expansion for its strength, and cracks or breaks down, from its own sudden greatness, like some aspirants in the political world,—some mushrooms, who rise too rapidly to stand firm or long.

The soil, likewise, must be kept free from either extreme of too much or too little moisture; and yet, allowances are constantly to be made on account of the habits and nature of different plants: one, like the celery, for instance, or asparagus, requiring more dampness than cabbage; one requiring less shade than another; and one, a system of hoeing, dressing and watering, which would injure, if not destroy another.

As a general rule, also, great supplies of manure are to be added yearly to the soil, because, unlike pasture-lands and some others, no

return but that is here made to renovate the earth, after yielding its abundant products.

But here, again, judgment will be required to discriminate in the amount and kind, not only according to the general need of the soil, but the particular plant, or a particular spot, and the suitableness of any particular dressing to that plant or place. Though decayed leaves are generally the most useful manure for a garden, yet no one dressing is best for all plants or all soils, any more than one medicine is, like Dr. Sangrado's bleeding and hot water, best for all diseases. The clayey land requires more sand, and *vice versa*. The hard stalk in a plant requires more silex; the soft one, more potash. All should be thoroughly analyzed and understood, so as skilfully to reduce or neutralize excesses above the true standard for the subject, and supply all material deficiencies below it.

Powerful and concentrated manures, like guano, or poudrette, or potash, or ammonia, dissolved in water, possess some peculiar advantages. They may, by skilful care, be used with more effect than most others; and possess a great convenience in easy application by the hand, and in advanced stages of the plant, being so much more light and portable than others.

It will add much to the appearance, and detract little from security to all gardens, if a hedge, rather than other fence, be made to encircle the whole, like "the verdurous wall of Paradise upsprung," as described by Milton. Its impenetrableness and rich green will, in time, yield an ample return for the expense; and its existence was once a part of the very definition of a garden.

Water, for use and coolness, as well as ornament, is also very desirable, whether gushing fountain, gurgling brook, river, or miniature lake. Free air and sun, no less than shady arbors, or labyrinths of trees, are also proper. So are hard and dry walks, and suitable tools of all kinds,—good, but, like Shakspeare's rule for clothing, "not gaudy." There must be, without fail, also, an abundance of neat frames, and stakes and strings; as a free use of them, after winds and rains, or luxuriant growths, is not only indispensable to the safety of the plant, but conducive to the beauty of the whole garden landscape. If spare means will permit, Chinese barrels, bronze chairs, or rustic seats, may well be interposed at proper points, both for show and convenience, and alcoves, vases, and suitable statuary, for ornament. In short, a general preparation, which shall not only render labor easy and productive, but agreeable, is necessary to the full enjoyment and success of the business, as the cultivator can then alone feel the grateful pleasure of full victory, as the eye is then alone filled with beauty, the smell regaled with fragrance, the palate gratified with the richest fruits, and the appetite satisfied with the most choice vegetables. Beyond even this, in many in a free country, what numbers prize the independence to feast on the products of one's own soil, and "sit under one's own vine and fig-tree"!

Allow me next to offer a few separate suggestions in relation to the cultivation of each of the principal branches of horticulture, such as vegetables for the table, fruits and flowers.

In respect to the culinary department, like the masses in society compared with a favored few who have enjoyed higher advantages of birth, education, wealth, or station, it is the foundation, as well as often the great source, of profit in horticulture. The most early seeds are usually the most valuable, their products bringing often double or treble the price of those latest in the season. The most prolific seeds are also to be sought, as, all other things being equal, a product of a hundred-fold is far better than one of fifty. The most palatable and rich in the quality of their products is another prominent point of attention, when we all know how much more will at times be given for such in the market. The greatest and most beautiful have also just attractions, as they are more highly prized by many, yield more delight to beholders, and distinguish more the cultivator among his brethren of the spade and the hoe. As all these excellences are, by careful attention, more united or combined in vegetables, the larger will be the gain and the pleasure and the fame. And "let not ambition mock their humble toil," when the reputation of a Mercer by his potato, or of a Bartlett for his pear, a Baldwin for his apple, or of a Herd by his grass, will doubtless outlive that of many a poet and politician.

Some, to be sure, have described this branch of horticulture as belonging to *the kitchen;* but it should be rather to indicate where its products are to be cooked than to derogate from their importance. For, though we may not prize very highly "kitchen cabinets" in government, few of us would be content to live without *kitchen* aids and *kitchen* comforts.

Again, though it is not recommended to run after exotics, not acclimated, or many vegetables distinguished merely as novelties, but not by any different or superior flavor and productiveness, I would urge that every useful variety of these be sought out, in order to increase the interest felt in the garden itself, and perchance to light on some new and useful article.

In this way, every species of the potato has been added to the tables of the civilized world, since the discovery of America. In this way, we have the extending and delightful use of the tomato here within half a century, of the rhubarb plant not much longer, and of asparagus to any great extent, perhaps, in less time, and of the mushroom, from seed or spawn in gardens, as but of yesterday.

The world is opening more and more to us yearly by arms and commerce,— the last, "the golden girdle of the globe,"— and our people thus explore and bring home excellences from every clime; and if the next half-century offers only as much of novelty and additional usefulness in the culinary department of our gardens as the last one, we shall become rich indeed.

It is not a little remarkable how nature seems specially to have

aided the migration of many plants and seeds. While some insects make their own coffins and are buried near their birthplaces, and while the cradle of some of the annual plants is their grave, yet the seeds of the latter, on their light downy wings, are often wafted over half a continent.

So the love inspired for their beauty or flavor has led to the *transportation* of many others, not to punish, but enjoy them,— and this over the highest mountains and widest oceans. Asia thus first blessing Europe, and Europe, America; and thus both repaying Asia and Africa for all the rare fruits obtained from either.

In this department, the culture of vegetables for salads and pickles may be made another source of profit, as well as pleasure, for the table. Indeed, the preservation and preparation of the latter has, in some places, become a large branch of business. The growth of the family of melons is also lucrative, and their use delightful.

In all these smaller matters in horticulture, the great desiderata are to have the richest and earliest species.

The rearing of fruit is another branch of gardening, which has become quite profitable in some places, no less than pleasant to the palate, and nourishing and healthy.

The apple, no longer "forbidden fruit," has become in utility, cooked or uncooked, the very first of our native productions. The pear, plum, and peach and cherry, though all inured to our climate, rich to the eye and ravishing to the taste, are less productive, and generally, without much care and expense, cannot be kept long without decay. They hence are to be regarded more for temporary use and for luxury.

Beside their flavor, however, all of these possess another exquisite quality to recommend them. They delight the eye.

There is, in all, the swelling bud, the unfolding leaf, the opening blossom. Most of them, too, regale the smell, as soft zephyrs float around. Nothing can rival them upon blossoming, being, in the language of Milton,

"With gay enamelled colors mixed."

and sometimes also fanning the air with most "*odoriferous wings*," and dispensing wide their "balmy spoils" and "Sabean odors."

To advert a moment to other kinds of fruits, something of uncertainty as to success may be considered to belong to the grape in the open air, in the northern and inclement skies; and though delightful to the taste, fascinating to the sight, with its purple hues, and endeared by associations with the poetry and festivities of all ages, we must make more experiments, and, perhaps, discover new species, before certain reliance can be placed on its products in the open air in this immediate neighborhood. But all of us have seen specimens that show how well it can be grown, at times, even under our icy skies. The humble currant,

like the apple, is of a different character. It is one of our hardiest garden fruits, is most easily cultivated; and whether used raw or in sauce, or pastry, or jellies, has the agreeable acid and healthy influence which should attract to it greater attention.

I say nothing of the *wine* from it, which some years ago constituted so pleasant a summer beverage; because I am not certain that "the good wife" of the good Vicar of Wakefield would, in these temperance times (and I thank God they are temperate), be allowed to make her gooseberry wine, and much less the wives of us laymen to present the tempting cup, even from the currant. From considerations like these, it will be seen how important it is, in gardening, to cultivate for food all fruit suitable to our climate. Let us also be prompt to graft and inoculate the best varieties; let us be vigilant to guard the roots from borers, by pouring over them the acrid dust and the liquids most offensive; let us destroy in the egg, if possible, the myriads of insects that prey on them, in different stages of their growth, by scraping and washing the bark with lye or lime, that will not only aid in this, but give health and dressing to the tree itself. Let the earth, likewise, which is nearest the trunk, be enriched and cultivated as much as that nearest a stalk of corn or of wheat.

Let us prune off redundancies and decayed limbs (as in household establishments), and by all these not only will our gains or products be increased, but that neatness, vigor and deep verdure, be obtained, which so gratify every beholder.

There is in fruits, as in vegetables, when looking to profit, a like attention necessary, and for like reasons, to the earliest, the most prolific, the largest, the most beautiful, the best-flavored; and a constant regard to these distinctions will often save a sum equal to the whole expense of a summer's labor.

Some have supposed that espalier fruit was sufficiently more convenient in gathering to repay the trouble of training it. But, beyond the variety and novelty it presents to the eye, I do not deem it an object of importance, though these last circumstances make it agreeable, and especially in some localities, where tall trees would obstruct the prospect, or injure the landscape. Similar remarks may be applied to *wall* fruit. For I entertain strong doubts whether the protection thus obtained from cold and wind, and the increased warmth by reflection of the sun from the wall, do not often force blossoming in trees so much earlier as to expose them to greater injuries from late spring frost, which is a bitter enemy in this climate, and much to be dreaded and guarded against, if we ever expect to see blossoms mature fully—"blooming ambrosial *fruit* of vegetable gold."

The last leading department in gardening is the growth of flowers. Strange as it might have seemed to our ancestors, who looked almost entirely to pleasure from their beauty and fragrance, flowers are now a source of gain, no less than happiness. In several cities, the supply

of bouquets for ornament in ladies' hands, no less than to adorn their dresses, our tables and vases, has made fortunes to some of the cultivators. One of the best houses in Washington city has been built in this way. But if a gardener does not choose to sell either them or fruit, they are both excellent articles to give away. Beside this, they impart grace and freshness, as well as picturesque charms, to every house, no less than garden, and are in some varieties appropriate not only for borders, but whole beds of beauty and perfume.

Indeed, we can easily go with them to Thomson's

> "Infinite numbers, delicacies, smells,
> With hues on hues expression cannot paint —
> The breath of nature and her endless bloom."

The more a garden is rendered attractive by these and other ornaments, the more will it be prized. One of the first objects in their cultivation should be to have those which combine both fragrance and beauty. But, when both these qualities cannot be united in one plant, both qualities should be united in one garden, and thus more senses than one be always gratified.

It is next desirable to have a succession of them through the whole season, thus prolonging their use and the pleasure from their beauty, and furnishing seasonably whatever of them may be desired as unexpected occasions happen. Indeed, this long and constant succession, not only of flowers, but of vegetables and fruits, so as to cover most of the changing seasons — the spring, summer, and autumn — with their appropriate and feasible products, is not to be overlooked in rearing any of them.

Flowers are also, like fruits and culinary vegetables, to be carefully protected from many enemies which they all possess in the insect tribes. And the precautions, as well as remedies, belong in common to the consideration of all. Noxious liquids, including soap-suds, poured near, will frequently expel them. Offensive plants, either grown near others most liable to these attacks, or scattered about them, will at times succeed in performing the same office. But these animals possess such voracity, that some of them will feed even on tobacco, or the onion; and the only sure remedy, in all cases, is *death*. There will be no scruple, in such a case, by any gardener, when seeing his labors for weeks perishing under the tooth of a felon marauder, to inflict capital punishment. Even Cowper, with all his tenderness of heart, though toward a worm, allowed this. The task is less difficult than most would suppose till undertaken, and often puts an end to the deadly ravages of the canker-worm and caterpillar, when it cannot reach in the earth the hidden thief, or seize him in the air in the form of the cautious fly. But, in a war upon these last two, the bird is a most useful ally; and some of the domestic tribe of fowls give aid occasionally, though troublesome intruders in a garden early in the season. The sparrow and the robin sometimes slay their thousands;

and, though not content for their services with the honey of your flowers, like the humming-bird, but disposed, at times, to taste of your fruits, as well as insects, you can better guard the fruits from their depredations by nettings or alarm-bells, than you can guard your plants from insects.

The music and beauty of the bird are, at the same time, furnished almost gratis; and what richer note than that of the thrush, or gayer hues than the plumage of the oriole and the humming-bird?

I have before alluded to the fitness of making bees the ornament, as they may be a part of the wealth, of every garden. They belong more especially to your flowers. They gather *their* sweets for your use. They are your daily workmen for this purpose, in "swarming millions," and concentrate the whole in their hives, to adorn your tables and delight your palates; and, beside this, they excite a deep interest in the whole family, especially when seen through glass in their hives, and seldom injure any one, unless, as the law allows to some other animals, in defence of their own castles, when violently assailed.

In respect to the arrangement of flowers and shrubs, and even fruit-trees, it is greatly improved, in my view, by avoiding too much stiffness, and too minute regularity. Neatness and luxuriance are more attractive. The day for clipping into fantastic shapes has gone by; but I am willing, personally, to confess to an attachment still lurking for arrangements often into pairs or matches, however ridiculed by Pope and others. It seems natural. There have been "loves of the plants" discussed, as well as of the sexes in animal life; and every botanist knows that in some species there must be proximity of different shrubs of the same species, and inter-communication, in order to insure fruit.

Let there be, then, in every garden, at least one labyrinthine walk of flowers, shrubs or trees, allowing nature in them much as she pleases to throw out her graces, and to retain them, without any freezing stiffness from the hand of art, luxuriating in the forms and attractions imparted alone by the great Giver of all.

The general care of flowers and shrubs, as before remarked, is certainly most appropriate for the neatness and delicacy of woman; and their rainbow hues are not unworthy the coloring which adorns the female cheek, or sparkles in the ruby, and emerald, and topaz, on her fingers and breast. Attention to it in proper weather, and under suitable guards, is also calculated to give vigor to her health, and animation to her spirits.

And though the coarser labors should be performed by others, under her direction, the cultivation of flowers would lose half their charms and usefulness, without woman as a presiding genius over the whole.

Eve was by Milton, if not by the Scriptures, made to unite with Adam in the care of Paradise, as he says, "After no more toil of

THEIR *sweet gardening* labor than sufficed to recommend cool zephyr, and made ease more easy, wholesome thirst and appetite more grateful."

The fabled garden of the Hesperides was the favorite retreat of the daughters of Hesper; and, being three in number, they, like the sister Graces, adorned and were adorned by all the beauties among which they moved and mingled.

Some one has remarked, in substance, what our own experience often confirms, that if you see a flower blossoming in a window, or a basalt rose or honeysuckle winding over a door-way, however humble, you may justly infer that female taste and intelligence, if not beauty, reign within. It is woman, too, who in all ages, like Proserpine, has taken most delight in field or forest, gathering flowers, "herself a fairer flower."

Again: what adds a new charm to the modern cultivation of flowers, and more especially by females, is their emblematic language in love and poetry. They are much used in the East as symbols to speak the sentiments of the heart; and our own Flora's Dictionaries are becoming numerous, and so full of interest to the young and sentimental, as to render the study, no less than the rearing of flowers, never-failing sources of enjoyment.

Another zest given to their culture is the close imitation of their form and hues by the needle, and pencil, and by shell-work; and the immortality which is imparted to them, when most rare and beautiful, by both the poet and the painter. These lend an additional enchantment in developing their infant buds, or, figuratively, teaching their "young ideas how to shoot."

In short, one of the most gratifying tendencies, in the cultivation of all flowers, is another that commends them most to the reflecting mind, and is the lesson which their exquisite forms and hues constantly inculcate, that "the hand which made them is Divine," and that it points out, from the cradle to the grave, and in all around or above us, — in earth, ocean and air, — that the true amaranthine flower is virtue.

Not strictly belonging to either of these three departments, the other business of a garden — to raise seeds for future planting, and to raise herbs for medicine, with a few plants of a rare and scientific character — will well repay attention in those who possess the peculiar information proper to render them successful, together with the requisite leisure and taste.

They are, therefore, not made much of an object in this country generally; and need not be, where there is so much more in horticulture which is useful and agreeable, mingling so fully the *utile cum dulce;* and where those specially skilled in these matters so often make them a distinct business. Beside what is done for science in some public grounds, and in a few botanical gardens, and in separate nurseries, and the growth of seeds for sale and plants for medicine

by such careful people as the Shakers, the further attention to it in common gardening must rather depend on convenience and taste than any necessity.

But, at the same time, a little devotion to this, mingled with the rest, is not without interest, as well as pleasure, and recalls many joyful associations.

For, who would not like to rear, in some quiet nook of his garden, a plant from the land of Linnæus? a flower from Japan? a fruit from Mexico? a potato lately from the sides of the Andes, the cradle of that useful vegetable?

Who would not like to grow a few sprigs of the tea-plant, if acclimated? or the jalap, as we have the rhubarb? or the ginger, as we have the ginseng?

What peppermint, too, is so agreeable in medicine as that raised by one's self? what sage? what balm and lavender like our own?

And no better can a stormy day in autumn, or a winter's icy evening, be employed by the horticulturist, than in distilling essences from his own herbs, which are calculated to brace as a tonic the relaxed stomach, to exhilarate without intoxicating, and to assuage some of the pains "which flesh is heir to."

The rose-water, too, almost equal in fragrance to the Arabian otto of roses, which can thus be made to give a fine flavor to many dishes and drinks, is another inducement to rear some of that numerous family of flowers, which, though not without a thorn, is "still fairest found where all is fair," and is regarded as an ornament to the palace, as well as the humblest cottage, and from the most common species, to that covered with "a veil of moss," which the Germans represent that the "angel of flowers," appointed "to bathe young buds in dews of heaven," threw over it, when requested to bestow another grace on this fascinating flower. Who, too, would not prefer his own seeds, whose excellent qualities have been tried, and whose faithful preservation has been watched over by himself and family, than trust to strangers.

Our long winters and industrious females are very favorable to secure attention to the last; and can, by the talismanic wand of labor and care, convert them into coined gold.

The same may be said as to the independence and safety, in small nurseries or seedlings, of some fruit-trees, where their identity as good specimens has been tried, or they have been cautiously grafted or inoculated.

The raising of plants in a garden for dyes, like indigo or madder,—for opium, like the drowsy poppy, and for teazles for manufacturing purposes, I pass by entirely, because, though sometimes practised on a small scale for curiosity or pleasure, and, as such, interesting, yet it rises in this manufacturing age to a separate and independent employment.

There is one source of profit in the waste of a garden, to help soiling

cattle, and especially feeding milch cows, which is not to be forgotten. The blades of the table corn, the spare ears, the outside cabbage-leaf, the offal and defective parts of the squash and pumpkin, the top of the beet, and small roots of that and the carrot, the early potato, when not suited for cooking, the imperfect apple, and fruit of other kinds, all will yield nutriment and increase milk; and whatever fails to do this can, by careful attention, add to the riches of the barn-yard or manure-heap.

Now, ladies and gentlemen, let us, in conclusion, as the falling leaf at this season warns us to prepare for great changes,— let us turn, for a moment, to one or two more branches of business in gardening, which excite some reflections connected with our moral duties and improvement.

Let us feel the importance of *rooting out*, as both good moralists and good gardeners enjoin, all thistles and noxious weeds which may spring up in the pathway of a garden or of life.

Humble as it may seem, it is indispensable to beauty and success in gardening, to keep the soil free from all idle intruders or officious interlopers. Weeds, to be sure, have been properly defined as only plants out of their place. But, in a garden most emphatically, as in all well-ordered establishments of every kind, everything should be in its place, as well as have a place.

Again, as autumn closes around us and stern winter approaches,— as nature retires to her chilly quarters for repose and to recruit her wasted forces,— it is the duty of the gardener, according to her kindly admonitions, to withdraw gradually from his walks, become so sombre from his leafless trees and withered flowers, and prepare for the frost, and snow-banks, and ice. It is the wise forethought evinced in a due preparation for death. Affairs are to be closed up, and one's house set in order. The garden beds had better be turned up, so as to expose to destruction noxious insects, and render the soil more mellow. Some kinds of manure should be covered in. All leaves and litter removed. All tools housed. All tender shrubs and flowers protected by straw or matting from the approaching blasts and icicles of the closing year. And the gardener himself, like nature, may usefully devote the long evenings which are coming to the acquisition of new forces and intelligence against that opening spring and hopeful resurrection of vegetation, the "renovation of a faded world," which all of us, also, with the eye of faith, look to for *ourselves*, when this mortal shall put on immortality.

HISTORICAL INQUIRIES MOST IMPORTANT TO BE PURSUED, AND THE INFLUENCES EXERTED BY THE DISCOVERY OF THIS COUNTRY ON OUR CHARACTER AND THE WORLD.*

My remarks, this evening, will be more particularly addressed to the members of the "American Historical Society," who compose a part of this respectable audience.

The objects of that society, as announced in its constitution, are, "to discover, procure and preserve, whatever may relate to the natural, civil, literary and ecclesiastical history of America in general, and of the United States in particular."

It is worthy of notice that these objects, so very important and interesting, are wisely made to embrace a range much wider than the usual topics of history.

The record merely of battles and changes in dynasties, or a series of chronological tables of all remarkable events, and which constitute the most general idea of the design of history, would, in the brief as well as republican career of the United States, be literally the "short and simple annals of the poor." Not much would be gained by adding to those the pittance which, in these respects, is known of the rest of America; a continent discovered but little more than three out of nearly the sixty centuries which have elapsed since the creation of mankind, and whose population, when not barbarous, has been much dispersed, comparatively few in numbers, and seldom devoted to undertakings of great novelty or splendor. But, if we enlarge our views, as becomes the elevated position of our society, raising and extending researches from records of important occurrences to the true use or dignity of history, the causes and consequences of those occurrences, and to everything having a material bearing on man here, in his social relations, whether natural, civil, religious or literary, in their broadest senses, and we have before us inquiries of a noble and most attractive character; sufficient, also, in number, to engross the leisure which any or all of us are able to spare from the occupations of busy life, and ample enough in their scope to employ the severest industry, or tax the loftiest powers of analysis and judgment. It might be granted, that naked historical facts may alone form one valuable branch of attention, and that the mere "honest chronicler" can be useful in his sphere. Yet, unlike the ballad-singer and the bard who precede him in the early stages of society, to gratify the

* An address delivered before the Historical Society, Washington, D. C., 1837.

natural love of mankind for a knowledge of the past, he must, if discarding all that is fable or embellishment, become very sterile, unpeople much of the poetic and legendary lore of his predecessors, reduce many marvellous events to "a plain, unvarnished tale," and, like an honest geographer as to the interior of Africa or New Holland, leave large, frequent and provoking blanks. The only method of properly filling up such wastes in the history of a people recent in their origin, and absorbed chiefly in the arts and pursuits of peace, is that proposed in the constitution of our society.

Without dwelling on the minutiæ of the various inquiries thus contemplated, it certainly will be admitted to promise most usefulness if we devote the chief attention of our association to those topics which, in its peculiar position, are most accessible and most appropriate. But, while our labors are principally dedicated in this manner, nothing of a historical character on American affairs, which can be procured with ease, need be entirely neglected, however humble the document, or remote and apparently trivial its bearing.

If its contents throw new light on the progress, powers or resources, of any State, it is immaterial whether it be only a newspaper or manuscript, or relate only to the voyage of some hardy fisherman to throw the hook or harpoon in unexplored seas, or to the description of even the smallest insect which glitters in the sunbeam, the shell whose couch is the "blue and boundless sea," the ore that sleeps beneath the mountain's side, or the plant whose leaf is sometimes the shroud, as well as food, for both man and the worm. Strange as it may seem to some, without due reflection, if singling out our first illustration, they might find that a thorough knowledge of the most diminutive of the animal creation, its habits and history, may illustrate some of the most striking changes in the industry and comforts of a numerous population. Like that of the Hessian fly, for instance, it might enable large sections of our country to avert its ravages on the great staff of life, and yearly save millions of property from ruin; or, like that of the ship-worm, may assist us to protect valuable portions of our navigation from premature decay; or, like the cochineal and silk-worm, originate new articles of aid in manufactures, or of lucrative commerce.

A more accurate acquaintance with the signs of valuable minerals may also change the prosperity of whole States, by leading to the discoveries of lead, coal, iron and salt, or more attractive but less useful gold. This has been evinced in our own day, within our own boundaries: and the qualities of a new vegetable better ascertained or more fully employed, like those of tea or coffee, the cane, the hop or cotton, may revolutionize the pursuits of a large territory, and carry wealth and refinement, as well as comfort, into the former abodes of poverty and wretchedness.*

But, at this time, passing by the further particulars of inquiries

* See Appendix A.

like these, though your researches as a historical society ought not entirely to overlook any of the various tenants and products, as well as qualities and peculiarities, of our earth, sea and air,— encouraging the study of nature, and cheering forward our Audubons, Nuttalls and Featherstonhaughs, to explore her secret haunts in her rudest and wildest retreats,— and passing by the history of all the neighboring nations, colonies and islands, within the limits of the western hemisphere, though affording much useful matter for warning, and some for imitation,— it seems more suitable for us to give precedence to those historical researches which are more immediately connected with the peculiar position of our society at the capital of these still happy and united States. Fortunately, we are established, not only at the seat of their General Government, but not remote from the great marts of commerce; surrounded, at no inconvenient distances, with extensive libraries and flourishing literary institutions; near the centre, between the northern and southern frontier of our extended Union, as well as at the real centre of intercommunication for foreigners of distinction, and for the army, navy, legislators, judiciary, and travellers of every grade and character.

Hence, the opportunity enjoyed here which is greatest, and which should be first and most sedulously improved, is to render complete the history of our own government, in all its general operations, under our present constitution. Here are the records, and the most ready access to correspondence in connection with so cardinal an object. Much has been already done, in several publications in this city, to throw light on the formation of the existing system, as well as on the official proceedings under the old Confederation which preceded it. No small gratitude is due to several now within sound of my voice, for their laudable exertions to enlighten the present generation on the ability and untiring patriotism displayed in the legislation, diplomacy and wars, not only of the Revolution, but the few years immediately succeeding.*

But, if we duly cherish our own reputation, and aspire to meet the just expectations of the rest of the Union, we ought to exhaust every remaining source of historical illustration on such important points. Further and without doubt successful efforts can be made to exhibit the true causes and consequences of the leading measures of that age of trial, and to give to the interesting events which have followed, under the General Government, even to the present times, their true "form and pressure." On this point much is justly expected from the manuscripts of the venerated Madison, whose immediate, elevated and long agency in those political scenes, gave him opportunities of knowledge possessed by few if any others. Considering the violent party agitations which have prevailed during most of that period,— the history of it, if left to accident or prejudice, to only single-handed effort, one-

* See Appendix B.

sided knowledge and one-eared justice, to the mere passions of the moment, or the calumnies, colorings and distortions, of the day,— other nations would be led to form very unfavorable views of the character and tendencies of our government, and posterity would be tempted most unjustly to believe, but for the host of blessings transmitted to them, that their fathers were little better than the "convicts" they have so often been called, in reproach, by some of their worthless libellers.

Let it, then, become a prominent part of our duty, as members of this society, to strip from the statue of truth all such meretricious and false disguises. Let it not be said of us, when inquirers for facts, as Aristophanes describes the Athenians—

> "No matter what the offence,
> Be 't great or small,
> The cry is tyranny, conspiracy."

But, when we enter the sacred temple of History, let us put off the partisan of the day, whether in religion or politics, as well as discard our favorite theories of philosophy and political economy, and seek faithfully to do justice to the most calumniated.

Let us seek to correct mistakes in fact, remove errors in opinion, preserve important discoveries and arts from perversion or loss, illustrate the dark and doubtful in character, and preserve from the corroding tooth of time everything among us which may be useful and honorable to the land of our birth and adoption, as well as to the human race. In this last undertaking, acting in some degree as impartial judges on the bench of posterity, we should investigate with ermine unsoiled, and with all those lofty attributes worthy the goddess who holds the equal scales among mortals.

Hence, our scrutiny cannot be pushed too wide or too far. We must take neither Catholic nor Protestant accounts of religious events, neither federal nor republican views of political measures and motives, without due allowance for prejudice, and due comparisons of probabilities and conflicting testimonials. In fine, we should hold the mirror up to facts and nature alone, and invoke every just and honorable feeling to aid us in judgment on the long array of the past.

The particular topics of inquiry, in this branch of our history, are so numerous, that, notwithstanding their interest to many, the fear of being tedious must prevent me from presenting a special enumeration of them.*

The next most appropriate object of research, and which is intimately connected with the other as a ramification of it, would be the progress of our foreign relations, whether on this or the eastern continent. All the archives in relation to them are peculiarly connected

* See Appendix C.

with the capital of the Union, and the means afforded here for the correction of errors, by intercourse with the distinguished representatives of other powers, or by correspondence at home and abroad with persons able to communicate valuable information, are unequalled.

United with this are extraordinary facilities for throwing more light on our early history while dependent on some of those powers, and of drawing from their official records, through their courteousness and liberality, much that may be useful, not only in respect to our general concerns, but the local annals of various States on this continent, of whatever foreign origin.

To all these could be very appropriately added, at this central point, collections of specimens in botany, mineralogy, and conchology, as well as in several other branches of natural history. Our treasures of marl and of lime, from shells and stones, which may thus be explored and flung open to profitable use in agriculture and the arts, are probably unrivalled.

The whole range of Indian history, and the illustration of it by their relics and traditions, come likewise most naturally within our appropriate province, situated at the centre of the civil control over our Indian concerns, and the common point of resort and intercommunication for every important tribe.

What was the origin of these numerous tenants of our forests? What were once their arts? What do their overgrown mounds and scattered fragments of ruined cities, their romantic traditions,—and, among the wildest, some recently given to the world by the enterprising Catlin,— what do these and the hidden treasures in their singular languages and scattered hieroglyphics and paintings indicate? What do their historical wampums, their mysterious quipos or Peruvian knots, develop, to the patient inquirer?

What do they all teach of their destinies in by-gone times, when they had neither well-balanced government, nor the art of printing to preserve the annals and grandeur of their various careers?

What disasters drove or what advantages tempted them to erect cities on heights of the Andes, above the tops of the loftiest mountains, in our own regions? When, and what earthquakes, or other physical convulsions by winds and tides, may have separated this great continent from Europe, Asia, or Africa? What false or bloody religions may have depressed and deluded them? What inscrutable doom has hung, and still hangs, over their decay and dispersion?

Such inquiries as these, if less useful to provide historical materials to advance the prosperity of this and future ages, are yet objects of liberal curiosity, and debts of gratitude and justice, if not of atonement, in some cases, due to the races which preceded us in these fair and fertile regions. Amid the atrocities almost inseparable from the condition of savage life, those races frequently displayed great hospitality, and heroic devotion to our fathers. Their history, thus far, has been too often written only by enemies; and when, as sometimes is

the fact, the authors were smarting under their barbarities, frankness requires us to admit that they have occasionally proved unjust, if not vindictive.

If King Philip, the great sachem of Pokanoket, could have stood on the summit of Mount Hope and stretched his eyes over the rich rivers and beautiful bays of his Narraganset dominions, and not have sighed at abandoning them, nor, amid stifled regrets and pangs at parting, have fought to defend them, he would have been unworthy his station, and have justly deserved the execrations of history.

We, ourselves, may yet learn useful admonitions from the annals of even such savage examples, if well considered; and be proud, while lamenting, as we ought, their ignorance, superstitions, and cruelty, if we, when menaced by invasion from abroad, or by intestine divisions at home, may be able to imitate the exhortations and sacrifices to union, the bravery and prudence, if not, in some respects, lofty patriotism, of such men as Philip and Tecumseh!

But my main purpose, on the present occasion, is to advert more fully to some of the deductions and influences to be derived from historical researches like those previously alluded to, and pursued with the spirit enjoined into the true character of American affairs in general, and especially of our own government and people. The lessons of wisdom which our annals, when rightly read, are thus inculcating, constitute their most conspicuous excellence.

It is thus that history becomes the useful schoolmaster of every age. Its pupils are the living, its lessons the monuments of the dead, in the record of their principles and their deeds. Their virtues are held up for adoption; their vices for abhorrence; their errors for correction and warning; their glory in arts or arms, in literature, in the sciences, or government, for admiration and useful emulation.

What, then, has been the peculiar influence of the events which have transpired here since Columbus daringly turned the prow of his vessel into an unknown ocean, and first beheld the shores of a new world darkening the horizon? or even since the pilgrim fathers stepped on the rocky beach of the east? or the chivalrous Smith landed at Jamestown, surrounded by a new and admiring race?

What has been the result on America itself? What on Europe? What on the world at large?

In tracing these inquiries into minute details, it is useful to seek all which has been disclosed that is important as to commerce and the arts, or letters and arms, and the various and splendid works of nature, as well as human rights and government, and the last and best hopes of man in religion and the future improvement of our race. In brief, we may ask, What does history teach us has been the true philosophy of the whole?

By the discovery of a continent before unknown, there burst upon the numerous races inhabiting its forests the knowledge, so marvellous to their untutored minds, of the existence of the eastern hemi-

sphere, and of a people whose civilization made them appear at first to be demi-gods. This was soon followed by some faint conception of the useful character of the reviving arts and letters, as well as of a religion calculated, as one would have supposed, if properly diffused, not to lead to the extirpation, conquest, or degradation of the aborigines, but rather to their elevation to all which might rival the loftiest and best in the old world.

It might, at that crisis, have been fairly hoped that the change on the Indians themselves would have been more salutary and glorious than even on the Europeans. But, notwithstanding the brilliant visions which illuminated their horizon, history has blasted almost every fond anticipation indulged, and has presented the destinies of the former inhabitants of the new continent under one almost indiscriminate and total eclipse. It is true that Eliot and "the good Las Casas" early preached the cross of Christ among them. A Brainard and others have since perished in the cause of Indian reform, burning with enthusiasm to cast down their false gods. Schools have been sometimes established among them,— agriculture and the arts often encouraged. But a desolating blight seems to have spread over the whole native race, crushing the expectations of the philanthropist, saddening the heart of the Christian, and almost extinguishing further hopes of great benefits from those exertions which a sense of duty and the calls of humanity still prompt us to persevere in making.

Mortifying as this has been to the pride of more enlightened human reason, and a purer religion, engaged in the civilization of the savages, it is almost equally mortifying that few can agree about the principal causes of these repeated failures. Probably they have been many and various,* but the discussion of them would occupy much space; and, amid all the errors and wrongs, as well as commendable efforts, of two or three centuries on this lamentable subject, the only useful deduction from their history which time will now permit me to notice is, that before anything permanently beneficial can be effected for them, above all, and beyond all, must they be induced to coöperate together, and, burying former animosities and revenges, to unite heartily, as one people, in all the great general relations of society.

This alone will afford leisure, taste, and resources, for real civilization. They have long been a living monument, we will not say of the judgments of Heaven, but certainly of the folly consequent on divisions among the same race into paltry tribes, and, like most of the clans of olden time, wasting their mutual means and energies in mutual aggressions, instead of finding leisure or cherishing propensities for the pursuits of peace and national improvement.

Perhaps, in the wisdom of Providence, they have in this respect been designed as beacons to warn us from the paths of division and ruin; and the best philosophy of their history to us, and the most useful

* See Appendix D.

lesson to be extracted from it for them, is probably the importance, not only of suitable education in arts as well as in letters, but of union in governments, and union in efforts for common prosperity, rather than a blind indulgence in jealousies of each other, and a perseverance equally relentless and fatal in border hostilities.

But, leaving the influence of Europe upon the original inhabitants of America, their past fortunes, as well as future prospects, what weal or woe does history prove that the discovery of this country has, in return, been the means of conferring on the rest of mankind?

It would be extremely difficult to calculate with accuracy either the stimulus or expansion given to the human mind wherever civilization prevailed, by only the announcement of the ascertained existence of a new world. Imagination had before painted some islands in the blue west, like the Atlantides of Plato. Tradition, in the north, if not history, had also spoken of Greenland, and such emigrations as that of Madoc from Wales to regions remote and unknown.

Notwithstanding the denunciations of the Vatican, astronomy too had dared to speculate on the formation and character of the earth as a planet, so as to fill such souls as Columbus with enthusiasm for the search of new continents, or new routes to older and distant kingdoms. But now fancy, fable, hypothesis, tradition, were all to be lost in a glorious and astounding reality. A new world, vast in extent, abundant in population, and gorgeous with fertility and gold, was laid open to the admiring eyes of the eastern hemisphere. What rich themes for the historian! What a range for the geographer, naturalist, and adventurer! What visions for the poet! What fresh incentives and materials for commerce! What a theatre for the philanthropist!

In the more rapid revival of literature and wonderful extension of foreign trade, but still more in the progress of wealth and intelligence among the lower classes, as well as of political rights, and a reformed religion over considerable portions of Europe, since that magnificent discovery, no doubt exists that much is justly to be ascribed to the influences derived from that remarkable event. Especially must it be so, if coupled with the subsequent exploration and settlement of America, thus including her bright example since, as well as her strong impulses at first.

Beside the general expansion, influences, and impulses, thus imparted almost everywhere, and to every subject or pursuit, many important articles of commerce were flung open to the eastern world, and some useful seeds, plants and animals, were transferred, to improve and enrich the great discoverers.

A single American vegetable, the humble potato, has alone more than repaid Europe, in real wealth and comfort, for all the expenses of the discovery, and seems destined to prove a greater blessing to mankind than the whole of the precious ores which attracted so strongly the first voyagers, or which have since been drawn from the prolific mines of the south.

But, such topics sink in importance before those improvements in the civil and political condition of mankind which have become the great characteristic, as well as glory, of this western hemisphere. Certain it is, that, from the first visit to its shores, or, at all events, from the earliest durable occupation of the territory which now composes these United States, America was regarded by many as peculiar in its destinies, in connection with the governments east of the Atlantic, and as fitted, from its distance, attractions, and vast resources, if not in time to reäct upon and regenerate Europe itself, at least to drain it of some of its most useful population, and become the asylum of the persecuted and oppressed of all nations.

Whatever may have been the comparative physical powers of its native inhabitants, and whether its vast territory, mountains, rivers, and lakes,— its condors and mammoths,— were diminutive, and hence, as Buffon and some others supposed, the European man was likely to degenerate here, it is hardly necessary at this day to discuss. Notwithstanding any such impressions then, this country soon became, not only a refuge for the distressed, whether driven into exile by the ordinary calamities of social life, or by fanaticism, bigotry, and intolerance in religion, or by the vindictive bitterness of political hostility, but the chosen abode of myriads of the best and bravest spirits of that chivalrous age. In sarcasms and taunts, by our defamers, we have since been often vilified as a "colony of outcasts," whose "Adam and Eve emigrated from Newgate." But, yielding that a very few, as in all new countries, may sometimes have "strayed in error's path," yet the great mass emigrating hither are well known to have been the enlightened and patriotic, such men as "know their rights, and, knowing, dare maintain;" having equal readiness and fitness in both body and mind to encounter the perils of inclement seas, frozen shores, and ferocious savages, rather than submit longer to the endurance of the bitter oppressions inflicted on them in Europe by the parasites of power and the tyrants who upheld them.

In brief, as history has amply shown by their wonderful success, they were men suited not only at first to subdue a wilderness and cope triumphantly with barbarians, but afterwards to wage a victorious struggle with bigotry, persecution, and usurpation, from their former homes. It is true, and their descendants have never otherwise pretended, that not many of them were devotees of the fine arts, or the fashionable, or the titled, from the purlieus of St. James' or Versailles. Without derogating from the proper merits of any of these classes in their proper spheres, or under other political systems, our ancestors are conceded to have been mostly *homines res agendæ*, men truly fitted and thoroughly devoted to the practical affairs of life. But it must not be forgotten that they were, at the same time, men intelligent and intrepid in matters of government and religion, as well as in ordinary business; and, being so, that they were such men as ought to, and will, by their unconquerable constancy and skill, not only advance their

fortunes and foil opposition, but virtually govern the world, whenever the world is enlightened, moral, and free.

They will do this, not because ambitious and designing, but because best qualified to defend the hearth and the altar when in jeopardy, and, by useful arts and honest industry, as well as by arms, to build up great and prosperous communities. Like the Grecian statesman, they and many of their descendants could proudly say, "I am unable to play on the flute, but I know how to make a large state from a small one." Humble as some of their general traits of character may appear to many, the history of passing events, as well as of the past, shows that their labors have not been lost on Europe any more than on America, and that, by means of them, the latter has gradually become not only the land of plenty, but of promise, to large portions of the other empires of the earth.

From Cromwell and Hampden, who attempted in vain to emigrate hither, and from Locke and Berkeley, who generously labored to improve our institutions, as well as from the numbers, whether Independents, Huguenots, or Catholics, who, undaunted, actually encountered every physical suffering to escape from what were considered worse evils at home of a religious and political character,— from their whole heroic efforts, sacrifices, and triumphs, a spirit or a change in society has moved over the face of this great continent, and at last recrossed the Atlantic.

It is now pervading the best parts of the Old World; and though, since the discovery of America, it has been much assisted by lessons derived from antiquity, and much by the arts and principles of several modern nations in western Europe, calculated to renovate and improve, yet this great change has been more emphatically and immediately the result of exertions, experiments, and example here.

This spirit or change relates chiefly to the wider diffusion of civil and religious liberty.

The peculiar teachings of our history consist chiefly in pointing out the causes and preservatives of this spirit, its peculiarities, its proper limitations and guards, its consequences in benefits and glories, its perils, securities and hopes.

A few words as to some of its causes. When we look back to the great experiment which has been moving onward here for two centuries, it is at once discovered that little of our success has depended on physical advantages. The southern portions of this continent have exhibited as mighty rivers, as fertile plains, and lofty mountains, and genial climates, as in the north and west; and, without wishing to draw comparisons either invidious or derogatory, we are forced to trace the differences of progress in arts, power, and government, to much higher sources.

In truth, the causes of the great changes now under consideration have been imbedded much deeper in mind than in matter, and been

accompanied by some of the most remarkable moral phenomena since the creation.

The condition of many of the first settlers here led them at once to commence, if it did not impose on them the necessity of a thorough course of training for self-government. Hence, most of their rulers were, from the first, voluntarily chosen; and it was not till some stability in business and progress in wealth were attained, chiefly by their own exertions, that many of the colonial establishments were deemed of sufficient importance to tempt from abroad the interference of much regulation, domination, and persecution, in the shape of government. But, the neglected condition of their first establishments, the daring character of the early emigrants, their habits of self-possession and self-legislation for most exigencies, the entire freedom of thought, feeling, and opinions, they gradually cherished, and the feebleness of delegated power when imposed from so great a distance as Europe, kept up a constant education for independence, which must, without any temerity, or a tax on tea, or the odium of stamp duties, have been consummated on some other early occasion, whenever sufficient strength and numbers were obtained, and any slight provocation occurred to cause an explosion. "Coming events" had for some time "cast their shadow before." Their institutions and habits had made men bold, but not bad; hardy, intelligent, equal, plain-dealing, and just, though enterprising and shrewd; had promoted the employment of the faculties in useful action rather than the embellishment of them, and had reared gallant soldiers, intelligent farmers, industrious and scientific mechanics, and practical lawyers, for leaders, rather than mere scholars, or only the sometimes weak inheritors of office.

Such leaders, too, were not simply the Brutuses or Catos of antiquity, but they were the compatriots of multitudes imbued, like themselves, with greater useful knowledge, with a higher code of morals and purer religion, and with faculties sharpened and strengthened by the experience in government and improvement in arts of two thousand more years.

The institutions established, as well as the principles cherished, all, therefore, tended to a new, radical, and great result. Unlike most other people in their origin, they experienced here no long infancy of ignorance or barbarism, but at once started into being, elevated by and enjoying the aid of all the useful improvements, as well as learning and morals, of the most civilized nations of the known world.

It is manifest, likewise, that they brought with them, early as on board the May-flower, or late as the arrival of Penn, the elements of future resistance to every species of tyranny over the human mind. Though some of their views were yet crude, and, as might be expected, all the rights of man were not so well understood as after the struggles and popular victories of two more centuries, still, the stern resolve to be no longer "a mere shadow of what others say and do," in either politics, religion or manners, had distinctly appeared in the very causes

of the emigration of most of them. The increasing wealth, as well as education and rights, of the lower classes, in portions of Europe, had previously, though gradually, been developing there for one or two centuries, under every species of thraldom from official opposition in most of her monarchial governments. A settlement in America presented not only an asylum to those classes when wronged, whether persecuted for opinion or cloven down in some contest for freedom at home, but a theatre on which their theoretic views of liberty of conscience and equal rights, removed so far from the strong arm of despotic power, would sooner be allowed a fair trial, without incurring the danger of martyrdom, or of perishing on the scaffold with such men as Sidney, Russel, and Vane. It was more distant, also, from the blandishments, the wiles, and the seductive appliances of a court, and was soon surrounded and sustained chiefly by spirits of a kindred training with their own. But, without dwelling longer on such details, the general features of our whole history previous to the Revolution evince that America, besides being a retreat for the persecuted, was regarded at first and to the last as a favored abode of the hardy and industrious, and the peculiar resort, not of dignitaries in church or state, or drones of any kind, but of those devoted to new enterprises and lucrative commerce, and who would dare to settle on a cold, inhospitable, and iron-bound coast, as readily as on the sunny and fertile banks of the Delaware, the Savannah, or the Mississippi, if they could but plant quiet and free homes among the snow and granite, and fish up a profitable livelihood from the depths of the ocean, trap the beaver among his mountains and lakes, or hunt the whale with success at either the equator or the poles. In fine, whether at the north, the centre, or the south, it was considered the home, as it is now the glory, chiefly of the middling and laborious classes. These classes, accustomed to rely on their own energies in private life, and smarting under taxation, intolerance, and monopolies, in their former abodes, aspired to breathe the freer air of some other region, where, though remote, unfriended and solitary,— though strangers at first, and environed by almost every species of peril,— they might be governed in public life also by their own judgments, as well as by their own interests and useful laws. Most of the emigrants, and their descendants, were likewise persons very equal in rank, business, property, and education, and such mainly as felt the strongest attachment to the great republican doctrines of liberty, as taught by the school of Harrington and Hampden. Above all, they were men deeply impressed with religious principle as a guide; and their constant efforts were to acquire for themselves, and transmit unimpaired to others, a full knowledge of their duties, no less than a full enjoyment of their rights and powers, as beings free, enlightened, accountable, and immortal. In these last circumstances are concentrated two cardinal and conservative principles of their whole system. They are the principles which, fundamental in their nature, chiefly sustained them before, as well as during, the crisis of the great struggle

for independence, and which have since contributed most essentially to push forward our country with such rapidity to its present unexampled condition of prosperity. Those principles were the promotion and indispensable necessity, under their free institutions, of a high degree of practical education and sound morals. Without these, whatever other numerous advantages our ancestors possessed, in their Saxon origin, their general equality, soils so exuberant, fisheries so prolific, and navigable waters so extensive, they either would have been incapable of self-government, from ignorance of the true extent of their rights and the proper safeguards for them by means of suitable constitutions and laws, or they would have become so impracticable, divided, and weak, as to have passed under a foreign yoke. Or they would have proved so unprincipled and craven as to have bartered the substance for the shadow, and accepted, at the Revolution, if not chains, yet an unequal compromise with the parent country, for the aggrandizement of a few, which would have forever branded them with dishonor. Or since, as well as previously, they would, without just pretence, have made claims and resorted to ferocious outrages on individuals or feebler nations, from whatever cause obnoxious, which would have destroyed the confidence of the world in their integrity, and, if not leading to counter revolutions or restorations, would probably have wrecked many of their most valuable institutions. But, elevated and ameliorated by those principles, they were always men as different from Romulus and Remus, and their wolfish aggressions on the neighboring people, and from the Barbarossas of more Moslem eras, as was the Christian from the Pagan code of morals, or the nature of the education of the Puritans from that of banditti and buccaneers.

Nor ever since (we may justly exult) has the spirit of plunder or conquest been allowed to stain a single page of our annals. On the contrary, we see everywhere, and in everything, the astonishing results of that practical education, and those sound morals, operating on a people so fortunately situated. From the very outset, it taught them the importance of not only free schools, libraries, and colleges, as means or instruments for advancement, but, what precedes even them in time and utility, strict parental discipline at the fireside, thorough acquisition of trades and professions, and the beneficial instructions of the pulpit and the forum.

It taught them also to make actual experiments, as well as improvements on what had already been learned; or, in some sense, to combine study and practice, by mingling the administration of justice as jurors, exercising fearlessly the right of voting at the polls, and all, or nearly all, taking a constant and legal as well as large part in the management of those miniature republics, consisting of districts and towns, as well as in the disposal of county and State affairs.

Their system of free schools was generally one of the strongest foundation-stones of the whole fabric; and we can trace in their legislative records the establishment of them as early as the first twenty-

five years of their settlement. Most persons, though childless, wisely considered their property and persons so fully protected and benefited by the education of the children of others, as to make the tax for this purpose just and salutary. This system, in various ways, is believed to have since extended its ramifications or influences over most of the Union; and, though in some States yet unattempted in form, and in many yet deficient in attention to inculcate the elements of great moral and political truths as fully as a knowledge of mere letters, it has, with admirable retributive justice, called to its aid, in other States, all the taxes and penalties inflicted on the minor vices of society.*

But, besides these and much more of details connected with the origin and progress of elementary education here, and which, however interesting, want of time compels me to omit, our history exhibits a favorable change, of late years, on the subject of books of useful knowledge, in their greater cheapness and multiplicity, as well as increased practical tendency.

The libraries of this country, whether public or private, are becoming larger and more valuable, and the progress of invention, by stereotype printing, by improvements in the manufacture of paper, and by steam presses, has contributed much to facilitate the acquisition of knowledge, for both the ordinary and more select purposes of life. The daily press has thus become another most powerful auxiliary in teaching; and the number of newspapers in America is computed to have increased so as to be more than half as great as that which all the wealth, population and intelligence, of Europe now circulate. While on some subjects all mankind feel and act much alike, our ancestors were wisely aware that a conventional mode of thinking on others is often formed very early, and in great strength, by books and associates.

Hence arose in part their great sagacity, foresight and diligence, in respect to early education; and thus, while in the view of the unlettered Indian we, as they did, by our system of education, *spoil* his children for the chase and the inclination for interminable and ferocious war, we shall, it is to be hoped, always continue by means of it to spoil our own children for most of the purposes of either sloth, slavery, or despotism; and while, by proper elementary works, by competent teachers, and liberal pecuniary encouragement, we shall be able to point in every village school to such spoiled children as our Franklins and Hancocks once were, a constant progress will be secured, as well in the useful arts of life, as in the preservation and improvement of our liberties.

In another branch of common instruction this country has advanced so far beyond most others as to become a model for foreigners to examine and imitate. Thus, under the influence of just sentiments of humanity for even the lowest of our erring race, some of the States,

* See Appendix E.

and many private associations, have pushed education, literary and religious, not only into the almshouse, but the very cell of the criminal; and while inuring the body to habits of useful industry, and accustoming the appetites to temperance, it has been attempted to superadd hopes of durable reformation, by increasing the knowledge of the rights of others, and strengthening the sense of duty to respect these rights. The means of higher education have likewise long existed here, and of late been much enlarged, though, for reasons hereafter detailed, they have usually been deemed of secondary importance. Our practical intelligence always taught us to rely on the skilful surgeon, rather than the mechanic, for amputating a broken limb; and though the mere literary classes have been regarded as the capital or ornament of the column, rather than the column itself, which supports the social edifice, their labors have done much to solace, refine, and stimulate others, and often, as in the case of Davy and Napier, Black and Newton, have helped essentially to advance even the common arts and improvements of mankind.

Sound learning and true liberty have thus justly been described as leaning on each other for support; and if any tendency has ever been indulged here in public feeling towards any kind of monarchy, it has been as much the real, though unacknowledged monarchy of the learned professions and men of letters, as of the middling classes. The evident leaning, however, of the former class, has of late been, as they become more numerous, to spread wider among the latter, and to mingle more intimately with them, in practical studies and active pursuits, so as to begin to form rather a real *republic of letters*, more broad and equal, like our civil rights, and higher in the estimation of the whole community. All its members are thus more inclined to be and to be acknowledged as actual *working men*, in their appropriate spheres; nor do most of them deem it at all derogatory to labor there quite as hard as those who guide the plough, or wield the sledge and hammer.

If it be asked why our history has not been more prolific in institutions well calculated to aid in attainments of the very highest character in polite literature and the severe sciences, and what have been the consequences on our national character, and the progress of society here,—we answer, that, without detracting at all from the utility of these pursuits, in proper circumstances, and by people of affluence or leisure, it must be manifest (and no American need blush at the acknowledgment) that the whole fabric of our political system has been, and still is, in respect to education, founded on the diffusion of elementary knowledge more widely among the people at large, rather than on the promotion of greater acquirements within narrow limits. It seeks, likewise, to bring information immediately useful to every door, and to tempt all to listen and learn, rather than to carry what is abstruse or ornamental into the higher circles alone, or to encourage those pursuits which, by their elegance or refinement in taste, are

calculated principally to amuse the learned or fashionable, or to employ the leisure of the wealthy in an old and dense population.

This policy has been better suited to our youthful and equal institutions. It comported well with our condition in regard to the cultivation of vast and fertile regions of territory yet unimproved, and with a rapidly increasing population, requiring first to be supplied with sound practical information on political rights and duties, with agricultural skill, and with manufactures and mechanic arts of prime necessity. Hence, though science, here as elsewhere, has more than once "walked the furrow with the consul swain," yet, in the first instance,— and no astonishment need be entertained abroad at the fact,— we have generally (and commendably) been much more eager to become good axemen, ploughmen, and swordsmen, than mere bookmen. We have been more ambitious, in such a stage of our national career, to fill the hive of industry with new swarms, ready to distil honey and defend it, rather than to consume it. What have been some of the most striking consequences from this policy concerning education and equality of rights, as exhibited in our history, and more especially in later years? The whole mind of society, instead of the intellects of a few, has thus been excited. We have, in one sense, fostered a levelling principle; but it has been to level up, rather than down — by raising the low, rather than lowering the high.

The general influence of such a system has been to promote utility, instead of ornament or display; to ask the *cui bono* as to every project, private or public; to advance the comforts, rather than the luxuries of life; to gratify the wants of the many, rather than the caprices of the few; to carry "plenty through a smiling land" to every fireside, rather than the means of voluptuousness to the rich alone; to improve morals, school the feelings severely, and respect the decencies of society, more than embellish manners; to encourage simplicity of life, directness of purpose, and purity as well as manliness and inflexibility of conduct; to strengthen rather than to polish, even at the risk, sometimes, of roughness, if not rudeness; and, in lieu of effeminacy, or an extraordinary mass of mental acquirements, to promote decision of character, and secure to all the perfect knowledge and use of a few great and simple truths in politics, religion, and civil rights, so as in all respects to form useful, "high-minded men," instead of "starred and spangled courts."

History shows that the public policy forced on us by the same salutary influences has been to cultivate peace, commerce, and mutual benevolence with all nations, rather than to indulge in arms or conquest; and to rely on reason and justice for our rights, more than on the arts of diplomacy, or the *ultima ratio regum*. But, at the same time, we have done this without hazarding any unwise neglect of the latter, or declining a resort to force when required by honor or duty, — reason before arms, but arms before disgrace. It shows, also, that though originally planted in most cases amidst idolatry and heathenism,

we became, by the surpassing excellence of our political systems, as far removed from the propagation, by Mahometan violence, of the Divine tenets of the Bible, though anxious peacefully to send them for the conversion of all nations, as we are removed from the fierce corsair spirit of plunder, or the lust of warlike empire, which have so often inflamed and devastated much of the earth.

Hence have sprung our leisure, taste and success, in such numerous improvements in the arts of common life. In the best and widest pursuit of man, what various experiments on new seeds, crops, and dressings, on new farming tools and new domestic animals, have penetrated almost every glade and mountain, and threaded almost every stream, from the St. Croix to the Sabine!

Among the models which crowd our patent office, — I should say which once crowded it — that pride and emblem of American ingenuity whose recent loss we all deplore, — the plough, the harrow, the threshing-machine, the winnowing-mill, the hoe, and the churn, with a myriad of other instruments, improved or invented to facilitate the various operations of agricultural industry, filled a large space, and showed strongly the practical tendency to absorb here so great a share of intellectual exertion in the accomplishment of only useful results. How many have thus achieved in substance what Swift pronounced to be more praiseworthy than all the labors of mere politicians, — the salutary, if not splendid improvement, of making two blades of grass grow where only one grew before!

The mechanic arts, as connected with agriculture and manufactures, have also profited greatly by this general impulse of the public mind. It is true that many of the greatest changes in the machinery for spinning and weaving have originated elsewhere; but they have been readily adopted and much improved in this country; and, aided by the wonderful results from the cotton-gin, whose invention and merits are exclusively American, have caused an entire revolution in the household economy of many of the States, and studded thousands of our waterfalls with thrifty villages. Performing here, by machinery, in the cotton manufactory alone, what a century ago would have required the manual labor of at least twenty millions of people, we have with avidity seized not only on that, but all other labor-saving inventions, and done our full share in bettering and increasing what has in various ways contributed nearly as much as the introduction of printing, or gunpowder, to advance the wealth, comfort, intelligence, and consequent privileges, of the middling classes among mankind.

The daughters of the mechanic or farmer, by such results, are able to wear ornaments which royalty would once have envied; and by other discoveries and improvements of a recent date, are decked with laces from our own sea-island cottons, of which both the fineness and elegance exceed all either known or fancied by the Sapphos or Cornelias of antiquity. The same impulse has led us to push researches still more deeply into commercial enterprises with distant regions, — whether

to the frozen ocean, "the furthest Ind," or the isles of the Pacific; and whether to bring back rich returns for our ice and rocks in the east, or for the abundant staples of the south. But, above all, after devising numerous changes to facilitate intercourse at home, by newly-planned bridges and improved roads and canals, this impulse has, at last, as has been better said in substance elsewhere,* placed upon them and on navigable waters, not only fleeter and more capacious vehicles and vessels, but substituted for animal power and sails, through American as well as English perseverance and skill, an element which has outstripped the winds in speed, almost annihilated time and space, and seems destined to advance the progress of nearly every art which civilizes and enriches man.

This new power has been taught also to enter the workshop and manufactory, as well as to course roads, rivers, and oceans, — to speed the plough, the shuttle, and the spinning-wheel, as well as empty docks, excavate harbors, and plunge into the deepest mines. It is a curious historical fact, that, though we are by some denied the merit of having first applied steam with success to navigation, and are confessedly a less numerous, less wealthy, less commercial, and less scientific people, than our competitors for this great improvement, there are now upon our various waters more than six hundred steamboats to their four or five hundred, and, from the large size of many of our vessels, a greater excess in proportion of tonnage employed in steam navigation. By the frigate Fulton, we were first also to apply it to purposes of war, that great theatre where, perhaps, its greatest powers may yet be developed. By a singular combination of mechanical intelligence and skill, in several other instances we have converted philosophy into a means of security as well as wealth; and if Franklin, alone, had lived, and dared, as he dared, and drawn, as he drew, the lightning of heaven harmless from the clouds, it would have been an epoch in useful inventions and practical application of science to the safety of social life which alone would have immortalized the country of his birth. Why are these themes so exhilarating and so engrossing to an American? Not that he is boastful of being the discoverer of more new powers than others, though he has succeeded in their application to more new and useful purposes,— and which last Lord Bacon considered as almost equally commendable, while it is manifestly quite as beneficial; nor merely that he filled your patent office with more than ten thousand models of inventions and improvements; but that he has done those, and at the same time successfully introduced numberless others, without patents, and without hesitation, from a peculiar characteristic of our people, growing out of their wide-spread and practical education, evinced in their universal eagerness to better their condition, in their constant aspirations for advancement in the world, and in their readiness to adopt, at once, every advantage within their

* Edinburgh Review.

grasp, from regions however remote. Vanquishing all obstinate prejudices against novelty or innovation existing too often still in benighted monarchies, and aided by the diversified origin of portions of our population, whether from the British islands, the Rhine, or the Alps, the Seine, the Baltic, or the Tagus, our liberality and tolerating spirit have thus sought to extract and cherish every excellence from every climate and government, in every science and art. This flexibility of disposition, without servilely aping the habits of any one nation, has contributed to convert the country into a sort of social Pantheon, to receive within its limits the professed advantages of all other people, and, as recommended by the great author of the Novum Organum, to bring them all *ad experimentum crucis*.

We are, in fact, the great laboratory of the world, to try every doubtful substance in the crucible.

In this mode, our progress in the useful arts, as well as in government, has been much accelerated, without serious political hazards or convulsions; and our history has exhibited a feature from which still higher hopes of advancement among us hereafter may, with propriety, be indulged.

Seizing, readily, on all the treasures scattered through the records of the last six thousand years, or discovered and gleaned, from time to time, by our enterprising commerce, in every habitable quarter of the globe, we make the whole world, in some degree, tributary to our progress. We take our stoves and wooden pavements as quickly from Russia as our machinery from England. We drink our tea as agreeably coming from the worshippers of the Grand Lama, on the opposite side of the globe, as if we brought it from Brazil; and find our drugs as medicinal, and our figs as palatable, from the Turk and the plains of Troy, as if they grew in Florida or Mexico.

We have drawn, likewise, for supplies of national names and examples, on pagan as well as Christian, ancient as well as modern, civilized and savage models, wherever we find anything deemed worthy of imitation. We seek all, visit all, imitate all, trade with all. We only ask if benefits can be received or conferred. In declaring our independence of foreign control, we never regarded ourselves as independent of either the commerce, arts or literature, of the great commonwealth of all civilized people, nor independent, whether individually or collectively, of the duties of kindness and reciprocal interchange of advantages,— but, rather, independent of any political domination not freely established by ourselves, independent in our systems of legislation, independent in our modes of thought and action, and independent, as it becomes us always to be, as well as unmindful, of the frowns of the rest of the world, while convinced that, in the cause of conferring the greatest good on the greatest number, we are engaged in a cause which conscience approves, and pursue it by means to which reason and virtue have long given their sanction. But conscious, from the spiritual principle within, when not debased, that "men would be

angels," and are often rashly aspiring, one of the great excellences in our progress has been its general caution and moderation, and its vigilance not to be misled by that ambitious and restless principle. Though aiming at almost everything, attempting almost everything, accomplishing almost everything, practicable,— yet we have still been regulated by the severe training before alluded to, and have been restrained in most cases, however much has been said and speculated to the contrary, from wasting our resources and energies on impracticable schemes, attracted merely by their splendor or novelty. Whether mere day-dreams of speculators as to monied enterprises at home, or enthusiastic theories for new political crusades abroad, have been urged upon us, we have generally looked, in all things, to the cardinal test of utility and safety; and, however the shore may be strewed with occasional wrecks, the great mass of society have not usually looked thus in vain. Trying, if not exhausting, most of all that has yet been discovered,— gleaning from all the known world,— we are now, by the Southern Exploring Expedition, if favorable opportunities offer, about to push still further our researches into unknown latitudes, and, if not adding to the treasures of science, in perfecting the researches of astronomers, geographers, and naturalists, at least to increase the extent and security of trade in old if not new channels, on old if not new objects, and to perform an act of justice to other nations, in contributing our share to the laudable efforts hitherto made by a number of them in the great cause of discovery. At least, we shall no longer be censured for holding back our common exertions, common contributions, and common sacrifices, to advance the knowledge of the surface of the earth, and in that way to improve our species.*

This practical education, chastened and controlled, as it has been in most cases, by sound morals, has, in fact, rendered our history in many respects more like a picture of the imagination than a representation of real life, as man has existed in other ages, and under different institutions.

Far be it from me to be understood as supposing that there has been no new impulse imparted elsewhere to the arts or to human rights since Vandal irruptions have ceased to overwhelm nations, and that no salutary progress is making abroad in many governments, by means of improved commerce and better examples, in the increase of democratic principles, liberal ideas, useful inventions, or more widely-diffused education.

But my inquiries are limited, by the character of our society, solely to American history; and my claims in behalf of America, or the United States in particular, are only to their striking influences or reactions on Europe itself, to their more rapid progress in improvements merely useful, to their more solid foundations of equal liberty, and more liberal and concentrated application of all that exists

* See Appendix F.

elsewhere of practical profit and good for man at large, rather than the higher classes,— than what has heretofore distinguished him in most other countries.

During the century and a half which preceded the Revolution, increasing, though under foreign restraint, from handfuls of feeble emigrants to a population of three millions, and opening respectable commercial intercourse abroad, we penetrated, with the axe and plough, to the first mountain ridges of our extensive territory. Even this was deemed a marvel, and excited the envy and cupidity of others to check our prosperity, monopolize our trade, and control our progress.

But, when emancipated from every species of interference from abroad by achieving independence, and left to form those constitutions, establish those equal laws, which our condition justified, and to excite that enterprise and industry to operate more widely which had already contributed so much to make us what we were, and to sanction all we hoped to be, history shows that, within about half a century, or little more than the moiety of the life of many an individual, that population proceeded to increase from three to fifteen millions,— that territory more than doubled, and widened from the Atlantic and its declivities to the Pacific,— that foreign commerce augmented from a few thousand dollars in value yearly to over one hundred and fifty millions, each, of imports and exports; manufactures, released from colonial thraldom, extended in many branches, not only to supply fully the domestic demand, but added several millions to our foreign trade; agriculture, bringing new staples to perfection, and, aided by mechanical ingenuity, furnished a raw material in cotton, for almost the whole of Europe as well as America,— provided ourselves, in a large degree, with many of the other essentials of life, such as salt, iron, sugar and woollens, and scattered comfort and civilization, not only from the sea-board to the Alleghanies, but from the Alleghanies to the great monarch of rivers, and from him rapidly westward, till, ere long, it must reach the Rocky Mountains, if not the western ocean. Within the same brief period, that history describes us to the rest of mankind as having created a navy secondary in size and efficiency to only two or three in the world; as having formed and sustained various institutions of enviable excellence, and done more to illustrate and perfect political economy than half the ages and authors which preceded us, because uniting in our system the practical man and philosopher, and making one coöperate with the other in furnishing facts for science and science for facts.

We have also conducted triumphantly several foreign wars and negotiations, and discharged all the burdens of one to two hundred millions of national debt, incurred in securing our independence and subsequent national privileges, as well as in enlarging our territory, and building up all our inestimable institutions and great works of public convenience or improvement. Last, but not least, besides rendering common the use of written constitutions, for the safety of human rights, in almost every quarter of the globe,— not merely rights

political, but rights civil and social, and well adapted to secure the whole against the causes and from the consequences of both violated charters and broken compacts,— we have, above all, furnished, in the person and by the efforts of Roger Williams, the self-denying but resolute seceder, on the margin of an humble river, now adorned with manufactories, churches, and colleges, the splendid triumph of the great doctrine which, soon spreading to Maryland and Pennsylvania, now pervades the whole Union, of entire liberty of conscience, and total freedom in religious matters from the dictation of civil power.

These are the obelisks and pyramids we have raised,— the triumphal arches built for posterity to admire. These have been a few of the consequences of our principles. It is by these, and efforts such as these, that our march is still forward in a career of prosperity as unexampled as it is glorious. When our opinions are misrepresented, our institutions vilified, our ancestors and rulers assailed, we can proudly point to our history and say, "By their fruits ye shall know them."

Though in many respects we have ceased to be the infant Hercules, yet in others we are still, as Burke once beautifully said of us, quite in the gristle of youth; and, it is hoped, aspire not to reach the hardiness of manhood in all things till every useful application of science to art, every practical progress in the great business of life, as well as in government, has been attempted, and the whole moral grandeur of our national position and principles developed.

In such an indefatigable career in the pursuit of general usefulness to all and by all, it is true, and far from derogatory, that we may not yet have collected the libraries of Gottingen or Oxford; because our true policy has been rather, in the first instance, to collect and educate a populace suited to subdue the wilderness, establish manufactures, and extend commerce.

Nor may we have exhibited critics in the classics like Scaliger, Bently or Johnson; because our earlier wants have been for critics in the forms of government, like Madison, and critics in the forms of law or administration of justice, like Wilson or Kent. We may not have educated mathematicians like Euler and Laplace, or philosophers like Boyle; because our similar geniuses, such as Bowditch, have been more engaged in translating and applying the reasonings of others to navigation and practical life; and, as Franklin, Fulton, Godfrey, and a host of inventors and benefactors, in rendering useful to their country the doctrines, sciences and discoveries, of former ages, as well as their own. Nor have we produced Byrons, Raphaels and Canovas, nor courted the Muses and the Graces with as distinguished success in those thousand other attractive forms so common in older countries; because our ambition has rather been directed to what naturally precedes those in society,— to the performance of deeds worthy the immortality conferred by the poet, the painter and the sculptor.

It is mortifying to see our position in these respects so often, so greatly, and so obstinately misunderstood. The pert sarcasms of

many might have been spared, had they reflected that the judicious here never presented claims for any peculiar distinction, however brilliant, occasionally, has been the success of many among us in belles lettres, and all those pursuits which are the usual result of only great wealth and the amplest leisure. On the contrary, we have, with much superior wisdom, considering our true position, and probably with not less real talent, and certainly with equal industry, been principally devoted to the business, — much more natural, appropriate, and important, in our youthful stage of society and with our vast physical resources, — to the useful business of converting forests into fruitful fields, bridging rivers, spanning mountains with roads, uniting seas by canals, and making every hill and valley vocal with beings industrious, moral, intelligent, and happy, by training, as far and fast as practicable, the whole population, whether wealthy or indigent, native or alien, to self-government, and the enjoyment, as well as preservation, of equal rights and well-regulated liberty.

What do your annals show has been the result of all this? Not the highest perfection in what the community generally, or the government, never sought,— in poetry, painting, statuary, monumental piles, or splendid architecture,— but great success in the wise objects of their true ambition,— in the enlightenment and comfort of the population at large, for whom and by whom the country has been conquered, planted, civilized, and ruled. By that policy and success we have, instead of remaining a people among whom to read was so rare, when America was discovered, as to confer an exemption from punishment by the benefit of clergy, become a universally reading people. Without the help of kings, peers, or prelates, as legislators, we have also become a writing and "calculating" people, more versed in the best elements of education than many of their titled ancestors; and among whom their language is, by the wide action of the press on the people and the people on the press, spoken with more purity and uniformity than the language of any country of similar size in Europe. A people better clothed than half the subjects of the proudest Edwards; a people better housed than those of the Henrys; better furnished and fed than Elizabeth's, and better protected in every valuable right than those of all the Williams and Louises of any age and nation. A people, in fine, who, rather than their rulers, are sovereign in all things; and, being an educated and moral people, can be, and are, behind and over all their governments, safely empowered, as sovereign, to change or destroy, at pleasure, every institution and law, and reconstruct them in the peaceful mode established by their constitutions.

This consideration leads me to a brief notice of a few other circumstances which have transpired here in connection with our new constitutions and new systems of jurisprudence, which are among the most interesting to the human race of any that resulted from the discovery of America. As before suggested, while presenting here, during a century and a half, a theatre on which the oppressed and enterprising

might exhibit more freely their various principles, aspirations, and experiments, for the improvement of man, the training for self-government on those principles, and in forms most acceptable to the majority of the governed, seemed at length to be nearly completed, when the Revolution rendered us independent, and prostrated every barrier which had before existed against putting all those principles into more efficient practice. The fruit of liberty had become nearly ripe for plucking, and hence was not destined to be in its taste, as in France, Spain, Italy, and elsewhere, so often like the apples of Sodom. Our fathers had read, reflected, and reasoned deeply, and knew society must be held together by some strong cement, or the inherent love for the state of nature and individual independence which actuates most human beings would lead to separation or dissolution, if not to mutual aggression. That cement is usually a clear conviction of benefits to be derived from society, or is mere arbitrary power, accompanied sometimes by fraud and delusion. We had rid ourselves from the domination of any portion of such power in our former oppressors, and were to commence the task of moulding institutions which might in some way secure to us more perfect freedom, and at the same time be adapted to confer equal if not greater protection and prosperity. But a continuance of monarchy was so abhorred, in any shape, that it seems scarcely to have been dreamed of. Yet, in rejecting that or any other arbitrary power, as a cement or preservative, whether foreign or domestic in its origin, and however derived, it became obvious to the reflecting that an extraordinary substitute must be found in some other elements of political cohesion, or government would dissolve into chaos. Hence the prophets of royal prerogative were full of mischievous predictions as to the incapacity of our people to govern themselves, and as to an early catastrophe of the whole system. Even the friends of equal rights began to feel some slight apprehensions at the prospect. But, having ascertained, during the old Confederation, that there must be a given or sufficient quantity of power, in order to make a nation, like a planet, revolve steadily in its proper orbit; and hence, if one kind of it — that from an arbitrary origin — was diminished, the other kind — that from a voluntary origin, and resting in the general information and sound moral principles of the community, with laws and government more beneficial and equal, established by them — must be proportionably strengthened or increased, — the founders of our present constitutions set about their new duties with earnestness and vigor. Seeing that their Confederation, if not in some material respects recast or remoulded, must utterly perish, the wise, the good, and the talented throughout the land, all with a chivalrous spirit coöperated in rousing the intelligence and virtue of the people to increased efforts in establishing institutions productive of the greatest benefits, not only to the separate States, but to the Union. They thus guarded us against "the dark and dishonest intrigues" of kings abroad, or demagogues at home; and prevented us from falling again into colonial dependence, or into those

divisions, anarchy, and licentiousness, which are the bane of all national improvement. They coöperated, also, in creating those securities for property and person, as well as for State rights,— in fulfilling those obligations of public indebtedness, and in yielding that equal protection to all branches of industry, which good faith and national prosperity required,— and in rallying, on every fit occasion, to the aid of order, law, and liberty, all the intellectual and moral energies of the whole population.

The true philosophy which, therefore, was made to pervade our new constitutional and legislative systems, was the offspring of this discovery of a necessity to make those systems a source of increased advantages to all affected by them, and to strengthen or secure government by greater attention to education and morals, and by making more frequent invocations to their aid, in the absence of arbitrary power and severer laws. Hence they began by offering benefits alone, and by removing all restraints from expatriation by those who at any time might become discontented with their portion derived from the common fund of advantages, political and social, or be dissatisfied with the umpirage of that majority in the government, which, though so often pronounced a tyrant, must lay the basis of all free society. They next were careful to leave neither individual nor State without a due share of rights, not only in the government itself, but under it; to recognize politically no distinction of plebeian or patrician, and generally none of Catholic, Jew, or Protestant; to control neither the person nor property, where the individual had been educated to the self-management of them, except so far as was indispensable for mere public objects; to disclaim all power not voluntarily conferred; to make all government be regarded as a blessing, when and so far as it was resorted to, rather than an unnecessary restraint, and to impart civil power to and over none, in any case, further than was necessary to enforce justly the laws of the majority. As a general rule, nothing but gross ignorance or vice were ever permanently put to the ban of exclusion from a proportionate participation in public affairs.

In order to insure more certainly the faithful discharge of official duty by all to whom power was with jealousy and caution confided, one great characteristic of their political system has been its more complete separation of the legislative, executive, and judicial departments of the government from mixture, and thus rendering the discharge of duties under each of them more simple and easy. They also established much more rigid checks and balances in legislation itself; and official accountability has been greatly and almost constantly on the increase, by shortening the term of office, as well as surrounding it with other new guards and responsibilities. This frequent and full reckoning between the electors and the elected exacts a more rigorous responsibility than generally has characterized any other government, however popular and free; and, while it may be open to the imputation of some encroachment upon individual and official independence, it

secures, what in our system is generally deemed more essential, a conformity in official action with the known will and wishes of those who made and conferred the office, and who are chiefly to benefit or suffer by all the measures of men in office. It constitutes, also, a more effectual preventive to the usurpations of power,— power, which, in its general tendencies, is often insidious, voracious, and selfish, which is apt to increase its appetite by indulgence, and which, unless vigilantly watched and frequently summoned to account, is prone to steal from the many to the few, till every vestige of real liberty is lost. The amplest authority was conferred to constitute a government both salutary and efficient for all useful purposes, but not a pittance for pageantry or oppression. The strongest securities were at the same time interposed to prevent abuses by officers to whom such liberal powers were intrusted, for the benefit of others more than of themselves.

It will be perceived, from only these general suggestions, how different has been the character of our efforts here for self-government from what they have often been elsewhere, whether in ancient or modern history; and how strikingly most of the causes of their difference can be traced to that practical education and sound morals which have so thoroughly pervaded this country, and which may well be deemed the strongest citadel of our constitutions.

Montesquieu and some others have mentioned virtue alone as the preserving element in popular governments. But this is an error, if virtue can be separated from intelligence, almost as fatal as that of supposing education alone to be sufficient. Our whole history shows that both have been intimately combined whenever we have prospered highly, and one or the other has always been defective, both in America and elsewhere, whenever a signal failure in self-government has occurred.

It shows, also, that the two united become, in a democracy, the predominant if not only legitimate substitutes for arbitrary power. That they are our great mentors, — one to instruct us in our duties as well as rights, and the other to impel us onward to the performance of them; one to enlighten, the other to convince; one to prepare us for right action, the other to make us act, or to give us proper motives for exertion. The conviction of these momentous truths was therefore so deep, it led our ancestors to commence the indulgence of equal rights, in no case, till knowledge existed and correct principles had been thoroughly inculcated in respect to the use and character of those rights; instead of commencing, as in many other regions, the rude levelling of all distinctions of political rank and civil privilege, before many of those about to participate in them were acquainted with their true limitations or design, and before they were gradually trained, like those ancestors and ourselves, almost from the cradle, in their correct exercise and necessary discipline. Without this training, or the education and morals indispensable to perfect it, a grant of equal political power, and consequently of almost unrestrained liberty, would

be not only a harbinger but an invitation to unbridled license — to plunder, conflagration, and indiscriminate butchery. Such a course stands, therefore, condemned by reason, condemned by experience, condemned by all history. It would evince a hatred rather than love of our species, and prove a curse to all within its sanguinary and fanatical influence. Notwithstanding, therefore, some arrogant taunts on this subject from abroad, it would be usurpation and tyranny for any of the governments under our restricted systems to attempt to adopt such a course towards any class of unfortunate beings, over whom no such authority has ever been confided to them by the people or the States, and probably, from a just jealousy, never will be confided. At the same time, it would as clearly be the height of folly, if not insanity, for any governments which may ever possess such authority to offer at once perfect equality to candidates so uneducated, undisciplined, and in almost every respect grossly unqualified.

But when, how and where, the process ought to begin, are questions that have been perplexing in all countries, as well as here, that belong exclusively to such governments alone as possess the power, and for their decision on which they are politically amenable to no other human tribunal, but only subject to that moral judgment of civilized mankind, and the great Governor of the universe, to which all intelligent beings are equally subject for the correct discharge of every duty.

The practical education and views of our fathers in all things led them also to devise new provisions, new guards, and new inducements for the preservation of the rights they established. Their history shows that, unlike many other reformers, they did not deem it sufficient to proclaim equality merely on parchment, or only in some organic law or charter, like a constitution; but they carried, gradually though firmly, in substance though not in exact form or with abstract and mathematical precision, the general principle of equality into common legislation and the usages of the social system, so as to secure what they had sought diligently, and to prevent the stone they had with great toil rolled to the summit from rushing back, as too often has been the case, and crushing, in an unguarded moment, the political labors of years.

To notice a few more of the particular consequences from this policy, it may be added that the tenure and distribution of property of intestates were in time rendered equal; and this alone struck deep and wide the roots of great uniformity of condition into our whole social system. The feudalities, unequal inheritances, and mortmains of monarchy, in respect to landed property, were also slowly abolished, breaking up with them most of the overgrown proprietary estates, and large possessions of every kind, and introducing almost universal freeholds and fee simples, so that every citizen could feel and be, in some degree, lord of the soil. The creation of exclusive privileges and monopolies of all kinds was discountenanced in theory, though not always sufficiently in practice. But, in progress of time, the use-

ful substitute has begun to spread, which is more congenial to the intelligence of the present age and to the preservation of equality of rights, to permit and protect joint associations for useful objects and under salutary restrictions, but seldom to make them exclusive. The elective franchise was also by degrees conferred on man himself, rather than the soil or estate he owned. Property as well as person was protected, but not made a new power or independent dominion in the State. The aristocracy of mere money, as well as the aristocracy of birth, was, in time, equally renounced in theory; and the progress of these improvements in changing many antiquated notions and abolishing certain remains of monarchial privileges or analogies, like the growth of the human frame, was wisely gradual, and in accordance with the acquisition of new authority, and the greater experience and intelligence of the community, and not so quick as to blind with sudden or excessive light, or to bewilder the weak, or to break down the unpracticed with the excessive weight of unusual power and responsibility. The administration of laws and the enjoyment of equal freedom were not at once rashly conferred on infants in years or acquirements — on the incapable, the convict and the slave; but the dispensation of justice was allowed to be aided by all who were qualified to be jurors; legislation intrusted to and perfected by all who were educated and represented in it; arms allowed to be in the hands of all who had anything to defend, and all the laws, like the shell of the marine animal, formed not to suit others, or by others, such as the inheritable Lycurguses or Solons of a monarchy, but to suit as well those who needed the laws as those the laws were destined to protect. Pursuing the analogy, they were thus afterwards changed with ease, as the growth and necessities of the community demanded. Thus have we wisely, but therefore slowly and in clear cases, moulded most of our legislation to suit the rights of our people, and the nature of their social condition.

Led by the sympathies in favor of our species usually attendant on intelligence and virtue widely diffused, the public have sought reform and improvement with such commendable zeal and generosity, that even the lowest have not been overlooked. The real pauper, from infirmity of body or mind, has been not only maintained by law, but, when capable, has been furnished with useful instruction, to enlarge his faculties and elevate his soul. Imprisonment for debt has also been generally abolished; humane and relief societies multiplied; asylums and hospitals for the insane, as well as sick, liberally established; and an eagerness evinced, by means of similar institutions, to pour intelligence, if not sound, even into the deaf; letters, if not light, into the blind; and language, if not speech, into the dumb. The penal code has been stripped of most of its Draco principles; —abandoning sanguinary floggings, pillories, and tortures, as well as barbarous executions, it has become almost universally one of comparative mildness, as well as of reformation. Beyond the spirit of the age

elsewhere, and far outstripping its progress in these respects in all other countries, the greatest efforts have been made to prevent, rather than severely to punish, the largest class of crimes; and to rely more on the schoolmaster, the spelling-book, and the Bible, for safety or improvement, than on the stocks, or the whipping-post, or the prison.

When man has thus been carefully educated to his political position, and all around him is in just keeping with it, the barriers of advancement are soon prostrated, and he becomes, in fact and in theory, the only monarch of the soil, the only author of his own laws, the sole arbiter, in most respects, of his own destiny. Then it is that he possesses every motive, human and Divine, to act, not with rashness, precipitancy, folly, or wickedness. The ballot-box is then the sovereign remedy for most political evils, instead of mobs, or riots, or revolution. The conflicts of opinion and interest are there, for a time, adjusted; injustice, extravagances and excesses, defeated or chastened; and the differences of tastes or desires — the inevitable strifes of liberty and independence — are, for an allotted season, either softened or compromised, so far as regards their political operation, by the conclusive, though often mixed decision of the majority. Defeat, as well as occasional victory, come so often and unexpectedly, that the whole habit of the country is to bear both with moderation, if not philosophic resignation, and to rely on another trial at the polls, in due time, for the correction of any former errors, rather than on a resort to force. If the decisions there in regard to men and measures, produced by intrigue or temporary excitement, look sometimes like caprice, and prove to be real injuries to the voters themselves, as well as to others, they are usually soon reversed, on fuller information. For, as Lord Mansfield (no strong friend of popular rights) once conceded, "the people are almost always in the right. The great may sometimes be in the wrong, but the great body of the people are always in the right." Revolution or rebellion, which, in extreme cases, ever will and must be exercised by those suffering under flagrant oppression, hopeless and irremediable in any other mode, is the extreme medicine, to be applied only in those extreme cases, and is not to become with impunity daily food. Indeed, when the supposed sufferer helps both to make and administer the laws, and, if dissatisfied with the decisions of the majority, can generally withdraw, if, after repeated peaceable trials, unable to change them, there is little apology for an appeal to any demoralizing and disorganizing measures. Having a country and a government of his own to be saved, he is generally ready to sink or swim with their political destinies. But, if irregularities occur, under the deep impulses of an over-sensitive love of liberty, or a sudden delusion as to facts and principles, the true policy of our system is, and always has been, to indulge in leniency, if not forgiveness, and to seek future reformation by additional teaching in both letters and morals, rather than by inexorable severity. A reasoning, enlightened, and moral population, are to be managed rather by reason than force;

and, under all disappointments and disasters, possess an inherent recuperative energy that prevents either despair or ruin. In such a population there is a *vis medicatrix* which will sustain the state against very violent shocks, and restore its institutions to a condition of safety or stability, after subtle encroachments or great indiscretion in departures from sound principles. Constitutions as well as laws, once deliberately established, are not thus in practice fickle as the breeze. But the disposition is wisely cherished, and very prevalent in our annals, to alter only what is manifestly wrong, and with great pertinacity to abide by whatever is found, after due experiment, not in a great degree prejudicial to the common weal, or to individual liberty and enterprise. While properly making all things in theory liable to change, as greater experience and information might require, our ancestors, since the Revolution, have dealt with caution and delicacy in legislation for the transactions of real life, and seldom entered into too minute and vexatious details, or countenanced very sudden innovations. They well knew that "the world had been governed too much," and that it was more secure, and often more advantageous, to stand by tried laws and institutions, though in some respects defective, than to embark constantly on doubtful schemes of supposed improvement in anything and everything which restlessness, rashness or ambition, passion or ignorance, might feel disposed to hazard. Hence, they bore various oppressions, and much rank injustice, long as they were bearable and any hope was left of peaceable redress, previous to their resort to forcible resistance; and hence, the strongest reliance can always be since placed on the permanency of our institutions and laws, so long as they confer in any reasonable degree the benefits anticipated from them. Their maxims and practice have always been to advance, but to advance cautiously, *festina lente*. It is true our people have generally sought liberty in all things, so far as consistent with the preservation of the social system in safe operation; and that they have trusted for protection much more to the better restraints of good education and sound morals, than to frequent changes or great severity in their laws. It is also true that, in doubtful exigencies, their general bearing has always been in favor of increasing liberty; but still it has not been liberty independent of law, or opposed to it, but liberty in conformity to law. They have sought the law of liberty, rather than the liberty to dispense with the law.

The freedom of the press, for instance, however perverted at times, or occasionally lowered in its legitimate influence by groundless and indiscriminate animadversions, was, at an early day, fully established here, unchecked except by being made legally subject to punishment for flagrant wrongs.

From Milton's "speech for the liberty of unlicensed printing," published about the time many of our fathers emigrated hither, to the expiration of the celebrated sedition law, as well as since, the idea has "grown with our growth," that a still more effective remedy to pre-

vent the licentiousness of the press, or the tongue through the press, is rather to be found in public intelligence and sound morals, than in the prison, or the pillory, or in personal violence inflicted thoughtlessly on its indiscreet conductors. However, then, we may lament its occasional prostitution,— mingled, it is admitted, with many excellences, —and however we may regret the manifold abuses of free discussion and liberty of speech as well as of the press, yet they all rest on imperishable principles. Experience shows that real merit lives down most calumnies, and that time so far destroys or corrects the evils, whether of the press or the tongue, that of all the dunces who assailed the Popes, Chathams, or Burkes, of former days, their slanders and themselves have mostly sunk into one common oblivion, except as preserved by the unnecessary notice of those they vilified.

True liberty here in anything never can be the mere Gothic license of irregularity or violence. The numerous examples of history, as well as ordinary intelligence and plain common sense, teach us that such a liberty is more full of disasters, more ruinous to the cause of uniformity in rights, security of person or property, orderly happiness, and prosperous greatness, than a tyranny the most miserable, partial, and bloody. Such a liberty lays the axe at the root of society itself, and renders everything a prey to the inequality and injustice of mere brute force, ignorant passion, or unbridled wickedness. If anything called law then remains, "lust will become a law, and envy will become a law, and covetousness and ambition will become laws." But the liberty sanctioned by our fathers, and pervading all our institutions, is the liberty created and sustained not only by law, but that kind of law which, with calmness and sound deliberation, is previously promulgated, by an enlightened public will, to be the true rule of right; and of the pure spirit of which, in the eloquent description of Hooker, "no less can be acknowledged than that her seat is the bosom of God, her voice the harmony of the world." It is the liberty, not to trample on the rights of the weak and the poor, any more than to assail and undermine those of the strong or the rich; but the liberty, even fastidious or scrupulous, to enjoy those rights as fully by the one class as the other, both under the shield of legal protection, but neither under monopolies, and both equally invulnerable under the broad panoply of sacred constitutions, wholesome statutes, and upright as well as intelligent judicial tribunals. Nor is liberty considered here, as it often is abroad, to consist properly in opposition to the existing government,— a government in most countries imposed on the people at large, no less than on the wretched, by conquest, doubtful inheritance, or force and usurpation,— but it is evinced rather by a support of the useful operations of that government here, which all have virtually united in devising and profiting by. As little is liberty displayed here by a bitter dislike to the laws, on the ground that "the world is not one's friend, nor the world's law;" because the law here is usually the friend, the child, the ally of all, as all who are qualified help to

make the law, all repose under its shelter, and most people duly appreciate the benefit of enforcing it. Hence, as a general truth, every eye here is vigilant, and every hand armed, to detect and punish ordinary offences, as well as to expose official misdemeanors; and the pride, ambition, interest and duty, of the whole community, are arrayed on the side of order, and in support of their own constitutions and laws. Nor ought they ever to grant the liberty to oppress any one class, party, or sect, but the liberty to all of them of enjoying freedom of speech and discussion within the limits before mentioned, and of obtaining immunity from oppression, and redress for injury, through the established legal channels. Not, in their private capacity, to be their own avengers, and redress wrongs either of person or property, punish crimes, make and unmake laws, constitutions, or appointments to office; but to do them all in the respective methods, regular, public, and constitutional, which equality, justice, sound knowledge, sound morals, and all the lessons and admonitions of history, point out as salutary and safe: that is, through the jury, on the magistrate's bench, in authorized conventions, legislative assemblies, at the ballot-box or the polls, and in proper executive stations. Liberty thus regulated and enforced becomes the champion rather than antagonist of the law, and the strongest bulwark of social order. Fortunate people, happy country, if all the teachings of its history, in these respects, are not lost upon us and our posterity! While the blind instincts of an uneducated or a vicious population often hurry them into sedition, refractory insubordination, and every species of lawless violence, the informed mind and strong moral sense of the great mass among us make them conscious that, however sophistry may elsewhere disguise the great truth, or false systems of policy may delude or degrade the lower classes, and then subject them to endure tamely humiliation from their fellow-mortals, or inflame them into madness and forcible vengeance against oppression, the just rule of conduct is always the same in public as in private affairs, and that in the end it is as ruinous to one as the other to have the right known, and yet the wrong pursued. They are aware that, if the population are habituated to think and act, even in politics alone, as mere Cossacks, serving, whether individuals, corporations, or parties, solely because the pay is highest, and the labor and danger are supposed to be least,— and if such mercenaries ever inquire into what is right, and knowledge in them, as in other cases, becomes power,— still, without sound morals as its director and restraint, it becomes but the power of the blinded Cyclops in his cave, useless to himself, and harmless to his enemies. Or, if, like Samson's, destructive to his enemies, it is, at the same time, equally destructive to its possessor,— crushing himself, ere long, with them, under the ruins of the overturned pillars of the social edifice.

But, while meditating upon our own astonishing progress as developed in history, and discriminating with care the origin alike of our

perils and securities as a people, does it not behoove us to weigh well the importance of our present position? Not our position merely with regard to foreign powers. From them we have, by an early start and rapid progress in the cause of equal rights, long ceased to fear much injury, or to hope for very essential aid, in our further efforts for the thorough improvement of the condition of society in all that is useful or commendable. Nor our position,— however the true causes may be distorted or denied,— our elevated position, in prosperity and honorable estimation, both at home and abroad. But it is our position, so highly responsible, as the only country where the growth of self-government seems fully to have ripened, and to have become a model or example to other nations; or, as the case may prove, their scoff and scorn.

To falter here, and now, would, therefore, probably be to cause the experiment of such a government to fail forever. It is not sufficient, in this position, to loathe servitude, or to love liberty with all the enthusiasm of Plutarch's heroes. We must be warned by our history how to maintain liberty; how to grasp the substance rather than the shadow; to disregard rhetorical flourishes, unless accompanied by deeds; not to be cajoled by holiday finery, or pledges enough to carpet the polls, where integrity and burning zeal do not exist to redeem them,— nor to permit ill-vaulting ambition to volunteer and vaunt its professions of ability as well as willingness to serve the people against their own government,— any more than demagogues, in a rougher mood, with a view to rob you, sacrilegiously, of those principles, or undermine, with insidious pretensions, those equal institutions, which your fathers bled to secure. Nor does true reform, however frequent in this position, and under those institutions, scarcely ever consist in violence, or what usually amounts to revolution, the sacred right of which, by force or rebellion, in extreme cases of oppression, being seldom necessary to be exercised here, because reform is one of the original elements of those institutions, and one of their great, peaceable, and prescribed objects. However the timid, then, may fear, or the wealthy denounce its progress, it is the principal safety-valve of our system, rather than an explosion to endanger or destroy it. We should also weigh well our delicate position as the sole country whither the discontented in all others resort freely, and, while conforming to the laws, abide securely,— and whither the tide of emigration, whether for good or evil, seems each year setting with increased force.

When we reflect on these circumstances, with several others, which leisure does not permit me to enumerate, and when we advert to some of the occurrences in our social and political condition, within the few last years, appearing worse, it is feared, than the slight irregularities and outbreaks of great freedom on such periodical excitements as elections,— and looking rather, in some cases, like more grave departures from legal subordination, and attended, as they have been, on different occasions, and in different quarters, by no feeble indications of obliquity

of principle in morals as well as politics, evinced by violent aggressions, not only on person and property, but the rights of conscience and of free discussion,— while we see all this, what does our delicate and peculiar position teach, as to the perils of American liberty? What warning spirit breathes from those events? What inferences should philosophy and our sober judgments draw from their history?

Is it not manifest that the danger now to be guarded against is one arising rather from too little than too much control on the part of the government,— too little rather than too much reverence for the constitution, the supremacy of the laws, and the sacredness of personal rights, as well as those of property,— and, if not an undue homage to mere wealth, still, too great presumptuousness from the enjoyment of such unexampled prosperity? Looking higher and deeper, is there not seen, also, too much indifference beginning to be entertained in some quarters with regard to the perpetuity of the Union? — that political marriage of the States, upon which, like that of our first parents, "all heaven and happy constellations shed their selectest influence." Does there not exist too great an apathy respecting our imperative and lofty duty not to disappoint, in any way, the aspirations and the confidence of the patriot or the philanthropist, in every country directed towards us, for the conservation of all the best hopes of the human race? Suspecting, then, some such evil tendencies, feeling such doubts, and fearing such dangers, what do our annals point out as the true republican remedy to check them? Not, we trust, a revival, in substance any more than in form, of the stronger arm of monarchial power which preceded the Revolution. By no means. Not, in any crisis, rushing for preservation from outrage, or for rescue from anarchy and licentiousness, to stronger systems of government — to what, it is hoped, we all deprecate and dread, in unnecessary restraints on individual liberty, and more arbitrary establishments, under the pretence of aids, though, in reality, often the most dangerous weapons wielded by the arm of civil power. Never, never! Nor yet a change in our codes of law, harshly increasing their severity, conferring unequal privileges or perpetuating exclusive powers, at the expense of the birthright and liberties of others. Nor an elevation of property and its possessors to greater dominion over the rights of persons, when its strides have already been so colossal, and its influence so overwhelming.

Neither ought we to indulge in despondency, however apprehensive, with the great blind bard of modern times, that, in some respects, we "have fallen on evil days and evil tongues,"— and however conscious that, as a people, we are not entirely free from foibles, errors and crime, in this erring world, and have not been able to reach every excellence as a nation, or to mature every political security of which our constitutions are susceptible, in the brief period of about half a century.

On the contrary, it behooves us to look our perils and difficulties,

such as they are, in the face. Then, with the exercise of candor, calmness and fortitude, being able to comprehend fully their character and extent, let us profit by the teachings of almost every page in our annals, that any defects under our existing system have resulted more from the manner of administering it than from its substance or form. We less need new laws, new institutions, or new powers, than we need, on all occasions, at all times, and in all places, the requisite intelligence concerning the true spirit of our present ones,— the high moral courage under every hazard, and against every offender, to execute with fidelity the authority already possessed,— and the manly independence to abandon all supineness, irresolution, vacillation and time-serving pusillanimity, and enforce our present mild system with that uniformity and steady vigor throughout which alone can supply the place of the greater severity of less free institutions. To arm and encourage us in renewed efforts to accomplish everything on this subject which is desirable, our history constantly points her finger to a most efficient resource, and, indeed, to the only elixir to secure a long life to any popular government, in increased attention to useful education and sound morals, with the wise description of equal measures and just practices they inculcate on every leaf of recorded time. Before their alliance, the spirit of misrule will always in time stand rebuked, and those who worship at the shrine of unhallowed ambition must quail. Storms in the political atmosphere may occasionally happen, by the encroachments of usurpers, the corruptions or intrigues of demagogues, or in the expiring agonies of faction, or by the sudden fury of popular frenzy; but, with the restraints and salutary influences of the allies before described, these storms will purify as healthfully as they often do in the physical world, and cause the tree of liberty, instead of falling, to strike its roots deeper. In this struggle, the enlightened and moral possess also a power auxiliary and strong in the spirit of the age, which is not only with them, but onward, in everything to ameliorate or improve. When the struggle assumes the form of a contest with power in all its subtlety, or with undermining and corrupting wealth, as it sometimes may, rather than with turbulence, sedition or open aggression, by the needy and desperate, it will be indispensable to employ still greater vigilance,— to cherish earnestness of purpose, resoluteness in conduct,— to apply hard and constant blows to real abuses, rather than milk-and-water remedies, and encourage not only bold, free and original thinking, but determined action. In such a cause, our fathers were men whose hearts were not accustomed to fail them through fear, however formidable the obstacles. Some of them were companions of Cromwell, and imbued deeply with his spirit and iron decision of character, in whatever they deemed right. "If Pope, and Spaniard, and devil (said he), all set themselves against us, though they should compass us about as bees, as it is in the eighteenth Psalm, yet in the name of the Lord we will destroy them." We are not, it is trusted, such degenerate descendants, as to prove recreant,

and fail to defend, with gallantry and firmness as unflinching, all which we have either derived from them, or since added to the rich inheritance.

New means and energies can yearly be brought to bear on the further enlightening of the public mind. Self-interest, respectability in society, official rank, wealth, superior enjoyment, are all held out as the rewards of increased intelligence and good conduct. The untaught in letters, as well as the poor in estate, cannot long close their eyes or their judgments to those great truths of daily occurrence in our history. They cannot but feel that the laws, when duly executed, insure these desirable ends in a manner even more striking to themselves and children, drudges and serfs as they may once have been, than to the learned, wealthy, or great. They see the humblest log-cabin rendered as secure a castle as the palace; and the laborer in the lowest walks of life as quickly entitled to the benefit of a *habeas corpus*, when imprisoned without warrant of law, as the highest in power, and assured of as full and ready redress for personal violence, and of indemnity as ample for injury to character or damage to property. Not a particle of his estate, though but a single ewe-lamb in the western wilderness, or the most sterile acre on the White Mountains, can be taken away with impunity, though by the most powerful, without the voluntary consent of the indigent owner; nor even be set apart for public purposes, without the same necessities, and the same just compensation awarded, as in case of the greatest.

To any man thus situated, anything agrarian about property would be as ruinous, looking to the prosperity of himself and to his family in future, as it would be to the wealthy now. Political and civil rights being made equal, it becomes much better, no less for the poor but well-informed and enterprising, than for the cause of society and virtue at large, as well as the present safety of the rich, that the future acquisitions of property, power and honor, should all generally be rendered proportionate to the future industry, good conduct, and improved talents, of every individual.

Thus labor and capital here are made to have but one true interest, and to find that "self love and social are the same."

The scourges of avarice, in its too great voracity for wealth or capital, will always be the irregular depredations on it of labor, if left badly paid or badly taught; and the true blessings of labor will be its honest and timely acquisitions of capital, if made able to learn and practise its appropriate duties as well as rights. Then, though steadfast and zealous in resisting the seductions of power, the timidities of sloth, the effeminacy of luxury, and the mercenary, sordid spirit of mere gain, the working classes will, at the same time, be careful to shape and crowd forward all their claims in subjection to order, and in the safe channels of law and well-regulated liberty.

It would hardly be necessary, before this assembly, to advance any further arguments deduced from our history in proof of the peculiar

importance, or indeed vitality, of sound morals as well as sound education, in such a government as ours, at all times, and more especially in periods of increased peril. They, indeed, always constitute a power higher than the law itself, and possess a healthy vigor much beyond the law. Nor, under our admirable system, does the promotion of morality require any, as mere citizens, to aid it, through political favor to the cause of any particular creed of religion, however deep may be our individual convictions of its truth or importance beyond all the world can give or the world take away. Our public associations for purposes of government now wisely relate to secular concerns alone.

Surely, any of us can be the worthy descendants of the Puritans, without being, after the increased lights of two hundred more years, puritanical in the indulgence of bigotry, or in placing any reliance on the dangerous, and, it is hoped, exploded union of church and state for public security.

On the contrary, the progress of temperance, the improvement in household comforts, the wider diffusion of knowledge as well as of competency in property, and the association, so intimate and radical, between enlarged intelligence and the growth of moral worth, and even religious principle, with the advantages all mutually confer and receive, constitute our safest dependence, and exhibit a characteristic striking and highly creditable to our whole country, as well as in some degree to the present age. If constantly reinforced by those exertions of the enlightened, the virtuous, and the talented, which they can well spare, and which duty, honor, and safety demand, they seem to encourage strong hopes that the arm of the law will not hereafter be so often palsied by any moral indifference among the people at large, or in any quarter, as to its strength to guide as well as hold the helm.

At such a crisis, therefore, and in such a cause, yielding to neither consternation or despair, may we not all profit by the vehement exhortations of Cicero to Atticus: "If you are asleep, awake; if you are standing, move; if you are moving, run; if you are running, fly."

All these considerations warn us,— the grave-stones of almost every former republic warn us,— that a high standard of moral rectitude, as well as of intelligence, is quite as indispensable to communities in their public doings as to individuals, if they would escape from either degeneracy or disgrace.

There need be no morbid delicacy in employing on this subject a tone at once plain and fearless. Much of our own history unites in admonishing all that those public doings should be characterized, when towards the members of the same confederacy, not by exasperations or taunts, but by mutual concessions, in cases of conflicting claims,— by amicable compromises where no tribunal is provided for equal arbitration,— by exact justice to the smallest as well as to the largest State; and, through all irritations and rebuffs, the more bitter often because partaking of the freedom of their family origin, by an inflexible adherence to that spirit of conciliation, and to that cultivation of harmony,

through mutual affection and mutual benefits rather than force, which, honorable, if not always honored, formed and has hitherto sustained our happy Union.

When towards other nations, they should evince what Anderson, half a century ago, considered "the best temper of government, neither to do a wrong or take it." By the aid of such an example here, with our abhorrence of the spirit of conquest, and our devotion to a mutual interchange among all nations of only favors, rather than injuries, it is believed that the art of printing, so widely diffused as it has been of late, and the greater facilities of communication between most parts of the known world, by means of an increasing commerce and wider employment of machinery and steam, are fast creating a great tribunal, even on earth, for the moral judgment, and, we hope, improvement of all nations. Public opinion is in this way yearly becoming more pervading among every civilized people, more enlightened, and, therefore, with safety and advantage, more omnipotent. May it not be hoped that all nations, as well as our own, are thus receiving some stronger impulses towards a higher state of refinement, both intellectual and moral? In fine, it is believed that our convictions must strengthen, as researches into history and its true philosophy penetrate wider and deeper, that, should the experiment of self-government and increased civil freedom fail in this country, where the most flattering prospect appears to exist of perfecting, far as practicable, the condition of our species, and accomplishing soonest the probable, though in some degree mysterious end of their creation, it requires not the spirit of prophecy to predict that less hope exists in favor of the success of such an experiment elsewhere, and that any nearer approach to the golden age of equal liberty, and the more universal diffusion of moral and religious as well as intellectual and political light, must be regarded as reserved only for some Utopia of the imagination, or some miraculous millennium of Christianity.

ON THE UNCERTAINTIES OF HISTORY.*

It has been an interesting inquiry in all ages—What is the Truth?

At the foundation of this inquiry,—whether relating to science, the arts, politics or religion,—has been an early, if not the greatest question—What is the Truth in History?

What does it show on the momentous topics, Whence came we? When? Where? Why? Whither do we tend? What have been the chief instruments to advance or retard the human race? How long is its progress to last? And what, for greater weal or woe, is to be the consummation of its destiny? Considerations like these are vital to all. But, on this occasion, I do not propose to glance at any of them, except the uncertainties which exist in much of history. These, with their evils and their cure, deserve the careful attention of all who would improve the condition of the world. It will be perceived, by allusions already made, that it is not uncertainties in the history of monarchs and battles merely to which I refer, or in humble pedigrees confined to books of heraldry and family coats-of-arms; but it is those in history in its broadest sense, including what relates to the literature and the general progress and great moral movements of society, as well as remarkable changes in rulers and forms of government. So, the uncertainties themselves to which your attention is invited are not merely the outright falsehoods and blunders in which some annals abound, nor those imperfections in human affairs which are inseparable from the finite faculties of man as an individual, subject to a brief span of life, and those numerous interruptions by which the labors of many are so often baffled. They are not so much matters like these, as the doubts and obscurities in history which arise from any cause whatever, and which affect, not only individuals, but the longer life and continued labors of the human race as a race; such, too, as affect them by not preserving with accuracy the principles, powers, deeds and condition, of man, through centuries and the duration of empires, and even through a series of the rise and fall of many empires, and in a manner most conducive to the instruction, security and progress, of the world at large.

These uncertainties are the most striking when connected with accounts of the earliest ages. Then, all in profane history is either a blank or mythical—obscured in the mist of fable and the imagery of

* An address delivered before the Capitol Hill Institute, Washington, D. C., December 17, 1842.

epic, or the mythology of legendary lore. For who, let me ask, can attempt, without the aid of inspiration, to penetrate the abyss of time, and trace out, with anything like satisfaction, either the birth of man, the growth of arts before the deluge, the appalling circumstances attendant on the submersion of a world, the renovation and second dispersion of the human family, or much of the ravages of conquest which have since so often forced forward a worse moral flood, to overwhelm civilization, than any physical one which ever wore down mountains, or pushed oceans over their wonted barriers.

Equally vague would it be to track, with accuracy, the migrations since of millions of Hebrew exiles, or the wanderings of those swarms from the northern hive which, for so many ages, devastated Asia and Southern Europe; or the sea-rovings, so far, wide and civilizing, of Phœnician commerce; or the daring adventures or hopeless shipwrecks that imprinted the first human footstep on the shores of this western continent, and in the tides of ages peopled it from the poles to the equator. The accounts of many of these matters have entirely vanished in the night of time, and of others have survived only in fragments and wrecks. These last, too, are aided more in certainty by the monuments of nature than of man; for a gushing spring like Helicon, or a brook like Scamander and Kedron, or a mountain like Ida, go further to identify the site of ancient cities and battles, than the best descriptions without them, or the earliest works of art which have ever been attempted.

But, in the very first ages, where are the monuments, of any kind, of the public mind,—of its social relations, its progress in arts, and all its brilliant triumphs of genius? Uncertainties cloud the whole; and we are forced to leave most of these things, when unenlightened by sacred annals, not only as obscure, but as a mighty maze, and the oracles they utter almost as dark and scattered as the Sibylline leaves.

Events more modern come nearer to our bosoms and business. But, when we scrutinize particular incidents in them, it is to be lamented that often, even there, our ears sometimes listen to uncertain sounds, and our paths become almost as devious as among the mists of remote antiquity. The questions, then, are not such as who erected the pyramids,—the puzzle and wonder of many ages, and the truth to be released from its imprisonment of three thousand years only through the superior acuteness of such inquirers as Champollion. Not whether civilization, or even language, was in early time matured by human exertion, or bestowed full grown, Minerva-like, by Divine inspiration; nor whether the ameliorating laws of both were then wafted to Ethiopia first, or to India, or to Egypt; and hundreds of similar doubts as to events in the infancy of the human race.

But it is rather, as Sir Walter Raleigh once experienced, the uncertainties about many things that happened almost within our own neighborhoods, and have a more immediate interest with the practical

affairs of life in the present age. That daring adventurer and early explorer of Virginia and Carolina, besides being a graceful courtier in the palaces of Elizabeth, was a learned historian; and is reputed, in despair of the truth as to an event happening under his own window, to have consigned to the flames some of his most valuable manuscripts.

Under such discouragements, by means of the contradictory and obscure, as to what transpires in our own time, well may we feel despondency at procuring the exact truth respecting what happened in no very distant epoch, to say nothing of such remoter periods as those characterized by pastoral simplicity, golden ages, and heroic grandeur. With a wish to illustrate these views by a few instances, not very ancient, and yet so far off as to assume no invidious or party aspect, let me ask what person can readily decide on the guilt of the beautiful Mary, perishing on the scaffold under the insatiate envy of her great virgin rival? Or who had most agency in bringing Charles the First to the block? or in planting freedom of conscience, as well as liberty in government, on the tolerating borders of the wilderness of this new hemisphere? And who, or what, put the first ball in motion of the great Reformation, which has immortalized Luther, but left comparatively in the shade Wickliffe, Huss, and many others, perhaps no less daring, devoted and deserving?

Again, what is the truth in respect to a thousand dark conspiracies in Venetian and other annals, over which doubts yet linger? Or what is hereafter to be divulged, by the further researches of our Prescotts and Irvings, as to numerous questions in the almost sealed book of Spanish discovery and supremacy in both Americas; and among these, not least, the influence, political and social, as well as religious, of the vast labors and enterprises of the missionary Jesuits in either hemisphere? Tell me, also, those that can, who exerted the most substantial influence in effecting that noblest revolution in England, when a bigoted James was dethroned? who in our own, foremost among the greatest? who in that of France?

Not who then conducted conquering armies, but who vindicated most ably the rights of man; and who risked most for the popular cause, and roused highest the public pulse in zeal for liberty, and courage in council?

Much uncertainty rests, also, over many minor questions in modern annals that still possessed interest enough in their day and generation to agitate whole communities. Such, for instance, as whether Mirabeau played most the part of a demagogue or patriot? or Bonaparte poisoned his sick soldiers at Jaffa? or Burke, or Boyd, or some other politician in an iron mask, wrote Junius? or who invented the quadrant, Godfrey or Hadley?

And, to come nearer home, whether Benedict Arnold, though in the end confessedly a traitor, ever deserved credit for anything beyond

rash impulses; or even who commanded at Bunker Hill—that memorable and at last monumental arena of militia glory?

Passing by a multitude of inquiries like these, I could, were it proper to approach nearer the holy ground of cotemporaneous history, which few can tread with safety before a mixed audience, array a long catalogue of questions still more recent, and equally as much mystified by doubts. They would include the character even of some divines, no less than authors, politicians and lawgivers, and the conflicting claims of genius to many of the greatest improvements in modern times. It is not merely, as Sir Roger de Coverly is made to observe, that on most questions much can be said on both sides, but that the real obscurities, on many of a historical character, are such as to pain and perplex every honest inquirer; for the chameleon colors given by haste or prejudice, passion, ignorance or party, to most events and characters, as well as systems, of any importance, tend to make partisans on everything, and champions on every side. Thus, as an instance, touch but the conflicting merits of some engaged in the battle of Lake Erie, or the Thames, and how quickly would the blood of most of us be made to boil!

So, with what speed would many display the red or white rose, in hostile array, if discussing the doubtful preference due to some rival sects in religion, so near that their Sabbath bells ring weekly in our ears; or to some rival systems in medicine, practised on the maladies even of our own bodies; or some rival theories of political economy, or rival parties in politics, in whose conflicts we ourselves are combatants!

As a fresh illustration of the different hues put on many matters by different historians, is a national event which has just agitated the community under our own eyes, and which it may not be invidious to mention. It was considered so doubtful as to require grave official inquiry, and no less affected our pride and reputation, than whether the persevering Wilkes, whose recent explorations have done so much for the cause of science and commerce, did, in fact, discover land —a southern continent near the Antarctic— before or after the French navigators.

But, enough having been suggested to indicate some of the numerous uncertainties which envelop us at every step, in the search after historical truth, I proceed to the next material inquiry: What have been the consequences usually flowing from such uncertainties?

In my view, they have been fruitful in evils. The character and progress of the human race have thus, in many instances, been misunderstood, and their improvement much retarded. The truth has, in this way, been frequently discolored, when not suppressed; and, instead of it, exaggerations being emblazoned, and additions and inventions heaped up without end, man has been constantly misled as to the past, and has thus often stumbled into fatal errors, both in conducting the affairs of the present, and planning for the future. Vast

chasms, too, are at times found, increasing these uncertainties, where even ages and centuries have disappeared, and, with them, most of what they achieved, either in usefulness or glory. Where some mutilated records survive, it frequently happens that they are so incredible as to contribute, with other circumstances, to veil the truth concerning the whole in mystery. Again: in a myriad of instances, deliberate perversions and distortions stare us in the face. Whether prompted by sycophancy to the vain, or pride, passion or sordid ambition, they fully justify the complaining exclamation of the lion in the fable, as to the different aspect which would have been put on his contests with man, had the figures in the sketch been drawn by a different painter, or the controversy described by an impartial historian. And who does not know the contradictory features which, from like causes, are given to many of the great battles—modern, no less than ancient —on land or ocean, and even to those miniature ones in politics, at the ballot-boxes, as the accounts come from the victors or the vanquished?

Considerations like these will likewise much lessen our surprise at the very opposite glosses, appearing on the pages of much of history since the Reformation, as compiled by Catholics on the one hand, or Protestants on the other; and, since the Protectorate in England, as drawn up by the republicans of the Cromwell school, or such as he was wont to style malignant monarchists. What we are to believe, amidst such conflicting representations, is manifestly not only perplexing, but, at times, ruinous to a healthy faith, and the cause of honest principles and sound progress.

We are compelled, also, to lament the wrongs done by uncertain annals to the good name and deeds of several of the noblest benefactors of their race. Some of them lived long in advance of their age, and thus becoming its scoff or its victims, their views were distorted, and their memories blackened, no less than their days shortened, by bitter intolerance. Under the discordant accounts given of their characters, the virtues of many of them have long remained under a cloud, or suffered total eclipse, till an age more liberal, inquisitive and just, came for their vindication. On the other hand, such annals have done much to convert many into fierce persecutors. Some of those who occupy a large portion of the pages of history, and give tone to society,—making its character for ages but a lengthened shadow of their own,—have evidently been bigots or tyrants from a mere want of more certain facts and truths to enlighten and guide them. The mischief has been effected by means of fallacious historical examples, and through heresies in public opinion, debased by loose histories, and false systems founded on loose histories. We are likewise forced to sigh over evils from this source to nations and ages, as well as individuals. The progress which has at times been made in diffusing great truths of all kinds, over whole kingdoms as well as eras, has been much delayed in consequence of uncertainties and doubts, caused by omissions, in some cases, in the annals of the past, and in others by treach-

erous discolorings. Some large communities have also been so isolated, and their career so uncertain, that scarce a plank has floated from them on the stream of time; and, to the rest of the world, they lived and died nearly in vain, furnishing scarce enough to other nations "to point a moral or adorn a tale." Some governments, different still, have existed as monstrous impostures, and, like the veiled prophet, or Mahomet, have subdued to their rule, by ignorance and fanaticism, many successive generations, who, with more certain knowledge of the delusions which oppressed them, would have escaped from servitude so humiliating, and avenged their wrongs. In short, wherever any nations have introduced vagueness into their systems of public faith, morals, or policy, originating either in ignorance, or king-craft, or priest-craft, or demagogue-craft, they have tempted the public mind astray, and lived worse than in vain, because they have helped to widen the reign of error in almost everything; not only false gods in religion, — Molochs and Juggernauts, — but false gods in government, manners, legislation, taste. And it is examples like these that for ages, in some of the most beautiful regions of the globe, have created uncertainty as to the right and the true, in almost every essential of life, and extended it wider and deeper, till all has withered within reach of its sirocco influence. If the evil spirit of darkness, which in some systems of philosophy is supposed to have once struggled with that of light for dominion over the world, is, without much stretch of imagination, considered in such cases as still contending for the mastery, it must be obvious that, unless effectually rebuked, such a malign power will spread its leprosy, till the mind, heart, and soul of society are all poisoned, and some of the fearful imaginings of Byron or Coleridge may be morally realized, where gangrene and death creep over all the living, till "darkness becomes the universe."

If we enter more into particular consequences, the evils are no less appalling. Thus, as to religion, none can hesitate to admit — no sceptic, even, will gainsay — that if all the annals of the world had been as free from omissions and mistakes as those (however defective) during one's own existence, he would not feel compelled to believe both the Mosaic outline of creation and the Christian scheme of redemption. I speak not now of any supernatural influence, but of man merely as a moral and intellectual being, and the principles of his nature brought to bear on facts and reasoning, so as to produce conviction or disbelief. Let me ask, then, what greater curse could be inflicted on the world than such a state of uncertainty in the annals of the past as to produce doubts in thousands, not to say scoffs, on topics connected with their eternal as well as temporal interests? So in morals. Except as elevated by the spirit of Christianity, they stand much as in the days of Cicero and Plutarch, and have for ages been much neglected as a separate study, founded on examples and axioms of conduct carefully preserved in history, and arranged with a view to this ennobling end. Except that, amidst the severe ills of life, it is still Epicureanism,

which is to divert or drown them in pleasure, and seize the day, as it flies, for sensual enjoyment; or it is the indifference of Fatalism; or it is Stoicism, stern, either to endure with iron will, or die.

It is true that changes innumerable have since occurred, full of warning if duly weighed; and principles the most visionary been tested, — glaring examples of both good and evil exhibited. But, unfortunately, after all this, the moral movements of the world seem chiefly to have been in a circle, rather than forward, or upward, in some direct line, nearer and nearer to the magnificent perfection which formed and controls the universe.

So in government. Had the true sources of national prosperity been always correctly recorded, all doubts as to certain events, and their influence on public power and public happiness, would long ere this have been removed. It would have been settled, far beyond our present bitter controversies, as well as ruinous vacillations, what system of laws was most useful, what form of public institutions wisest, what kind of taxation most equal and just, what theories of political economy soundest, what species of currency safest, what banking best, what credit paper superior among all those which now prevail, or which once run so disastrous a career in some of the Mogul empires of the East, as well as in the revolutionary exigencies of both France and America.

Long ere this, likewise, it would have been much nearer agreed what are the true relations between capital and labor; and what kind of exertions, though they should be strenuous in all forms, could be made with most chance of success by the masses in every country to attain that degree of intelligence which is so indispensable to self-government; and what treasonable injustice it must always be in the few towards the many to thwart them in such exertions.

But, heretofore, instead of this, either a pall of doubt, to most eyes, enshrouds the whole of these points, or differences in the accounts of both causes and consequences lead to controversies without end, and create distrust in the conclusions of much of political science, as well as impair confidence in many of the lessons and examples of the past on everything.

It cannot, therefore, be seriously questioned, that much of bad opinions, bad theories, and bad systems, has been the result of this uncertainty in facts.

It is imperfect facts which have made imperfect systems; false facts often (if I may be allowed the expression) which have caused false systems; and the broad path thus opened to error hardly needs illustration.

All can see that what begins in doubt as to one event is apt to extend to another, and another; and from doubt to grow into condemnation, and from condemnation to collision, and thence, at times, to vices or crimes, no less than fatal delusions.

By adverting to some of the evils from uncertainties in the exact

sciences, we shall find evidences of what is equally dangerous from them in accounts connected with other matters; but they are stronger and more striking in the sciences, because there they can be measured with more accuracy and distinctness. You will, therefore, excuse me for particularizing one or two of them.

An uncertainty of a single minute, in the latitude and longitude of a sea-port, or dangerous reef, as given on nautical charts, has often caused numerous shipwrecks; because a minute's difference, sometimes equalling a mile in distance, must, at times, during fogs or darkness, mislead the most skilful pilot, and strand the strongest vessel. From a like source has arisen half of the litigation and expenses concerning the boundaries of land. So the evils from the want of a certain standard in use in weights and measures in the United States may be readily conjectured, when it is known that, before their late revision by Mr. Hassler, some of them differed quite one-eighth of the whole. The injurious consequences of uncertainties have also been recently evinced on a national scale in our disputes with England. A doubtful description of a boundary has helped to lose for us a tract of country larger in size than some States in the Union. And a mistake, many years since, in running and describing the 45th degree of latitude, placed in jeopardy an expensive fort, as well as a whole tier of towns on the northern side of Vermont.

Again: it is undeniable that there have sprung up, from uncertainties as to the past, many losses of intellectual enjoyment, independent of other and greater evils.

For what high satisfaction could be derived from records more accurate of only ordinary occurrences in most of the ages gone by! As, for instance, who would not rejoice if a newspaper had been published in Jerusalem during the life of Christ, or in the early days of Noah, and had been transmitted to us unmutilated?

Or, if we could now obtain more every-day facts of all kinds as to different ancient nations, such as a suit of common clothing, even to the garment Archdeacon Paley was anxious to procure from Turkey? Or, a collection of household furniture and agricultural and mechanical implements, such as has recently from China delighted the American public? Or, when deprived of these or the treasures of a Pompeii,—extended to all ages and countries,—to have transmitted, instead of them, such certain descriptions and drawings as to leave no doubt concerning the progress in comfort and civilization which these particulars, though so humble, might, with great interest, unfold, as well as contribute even now to many valuable improvements? And who would not be instructed, no less than grateful, if some certain annals existed to solve all doubts whether many of the supposed inventions of such immense value, made in modern times, were not known in some former epoch, and have been lost since by emigration, or conquest, or the want of the embalming power of the press?

Who can measure, also, our privations from not having traced, with

truthful light and certainty, the numerous revolutions that have taken place on the surface of the globe, and all the greater geological mysteries which six thousand years of scrutiny and careful observation, if preserved with certainty, would have developed, as to the structure of the earth, its mines, its bursting fountains, its fathomless oceans,— its dews, clouds, and tempests,— its millions of plants and animals, and all its relations to the other planets which fill the heavens, and furnish such constant evidences of a Power above and around us so wonderful?

But, through many ages, the curiosity of man has, on some of these topics, been baffled by anarchy; on others, plunged into mystic fables; and, on others, groping in darkness palpable, and his intellect and energies wasted, in some respects, on conjectures the most chimerical. There has been, to be sure, a rush-light of history on some matters, but even that so feeble as often to make the general gloom more visible. If a skeleton has, here and there, been found in partial preservation among the historical ashes of ages gone by, where are the muscles and sinews, the nerves, the life-blood?

Where is much of the mind — the divinity within? where the records of many of its glories and proudest trophies? Unfortunately, attention has been bestowed too often on what is least valuable to society; and thus the useful principles, inventions, arts, and even the literature and sciences, which embellished what the others advanced, have not only been more neglected, but, in some cases, where cultivated, have perished irrecoverably. The extent of such losses it is of course difficult to ascertain. But, though the rays of intellect may never have shed much light on the sands of the interior of Africa, nor on the mysteries that darken the pagodas of the East, we know that in many former eras they illuminated brightly all the shores of the Mediterranean, and that some of their productions have since vanished, it is feared, forever. And we weep, and rationally so, much more over a lost book of Livy and a treatise of Cicero, or a work on science which has disappeared, than over a lost Pleiad, or an island that has sunk, or the ruins of some nameless city. The former, if preserved, might have edified and advanced all after ages; but the latter may have interested only a few, and benefited none. So, had half the attention been bestowed, only in Egypt, for instance, on the faithful preservation of experiments and principles in books — those mummies of the mind — which have been lavished in preserving the mere dross of departed spirits, how much more steadfast would now be the public faith! how much more elevated, in most things, the public taste — more enlightened public opinion, and larger all public acquirements!

For what, let me ask, are the dry and stiffened corpses of the catacombs, what is monumental marble or granite, or what, in usefulness, even the cold canvas of painting, or the colder stone of sculpture, compared with the warmth of poetry, and the ever-teaching, ever-inspiring records of devotion and philosophy?

Again, history, when we have it, is usually much fuller of the cru-

elties of tyranny, the persecutions of intolerance, fanatical crusades, impostures, debased superstitions, victims and martyrs of all kinds,— with the orgies of passion, the plots and counter-plots of ambition, the horrors of revenge, the blasphemies of crime, and all the carnage and devastation of war,— than with the means to add to the comforts, or the powers and usefulness, of other generations. Nor does this happen entirely from there having been little which is milder, more peaceful, and better, in the actual doings of the human race, through its long career; but that crime, pride and ambition, have often perverted history to their own glorification; and again, that at times a vitiated taste has rather preserved what is most startling, though worthless, and thus encouraged it, without discriminating between the glory of such courage and devotion to country as actuated Leonidas, Hampden, Tell, or Warren, from that which madly drove an Alexander to universal empire, or a Zenghis Khan to ravage half the world for rapine or revenge; and giving far more space and research to the deeds of the latter, than to those of the Fausts, the Arkwrights, Whitneys, Watts, Franklins, and Fultons, who impart such new powers to man, and do so much to elevate the masses and civilize the rude, as well as improve all, in coming time.

Well might we consent to blot from the records of our race half its heroes, could we obtain, in return, certain accounts of a single new and useful implement of husbandry, or one valuable tool more for the mechanic, or any new method to promote humble industry, or strengthen virtue, even in the lowliest.

Indeed, now, much as we seem to know of the surface of society, and especially of civil transactions, how little do we learn, clearly, from most history, of all the currents and under-currents of human affairs, including the true mechanism of the best solaces of private life, as well as the main-springs of public action, and the progress of the faith and opinions of mankind, no less than of their great pursuits and instruments of living! No one can readily compute the obstacles which, by such omissions and their consequent uncertainties, have been cast in the path of all kinds of improvement, not merely in one age or nation, but in the long career of humanity. As an illustration of this, let me ask if all do not see, at once, that we should at this moment be far more, inconceivably more, advanced in all knowledge connected with our vital interests, had the world, by more careful preservation of useful facts, known but a century earlier all we now know, of the structure, functions and wonders of our own frames, our own minds,— the properties and changes of the earth on which we tread,— the food we consume, the air we breathe, and the skies we gaze on,— if not the heavens we hope for?

The omissions to record at all, or record aright, the various operations of mind and matter, with the experiments in both, have also contributed to retard so late, and with injury incalculable to many generations, most of what has been discovered of magnitude in the few

last centuries, not merely of printing, gunpowder, the compass, the kine-pox, steam, chemistry, and all their advancing glories, but many things before alluded to, such as the principles and seat of animal life, the circulation of the blood, the knowledge of metaphysics, and many of the mysterious sources of motion, instinct, passion and opinion.

And after all these, there is still an evil-working obscurity in much of modern history, on some topics essential to aid the great future on earth, as well as reconcile man more fully to the ways of Providence in the tardy justice which sometimes appears to be awarded to nations, no less than individuals.

We want to be more often admitted behind the curtain of both public and domestic life. Let us have the pangs of each, as well as their pomp; and the hidden shoals to be shunned, no less than the public virtues to be imitated. Let us have more of the inside of the whole social and political fabric. When historians give us anything certain now, (and we have words enough on some matters — pretensions and prating enough,) it is usually in respect to the exterior alone — the mere walls and painting; on all the rest we suffer greatly from not having more unquestionable facts, more useful truths, more foundations for sound theory and intelligent faith — more causes of facts and events —more principles, that controlled empires and ages,— in short, more fruits, instead of shrivelled leaves; real, full light on the past, rather than a glimmer, sometimes more faithless than the tradition of the Indian wigwam.

The only other evil, from historical uncertainties, which I shall now notice, is that arising from the entire loss of the annals of some whole eras and centuries. This catastrophe has been one of the most formidable obstacles both to constancy and rapidity in improvement. For where, by the art of writing, or any other device, mankind have for a time had facts perpetuated in a form more reliable than tradition, the tides of conquest have occasionally burst in and so desolated the records, as well as cities, of subjugated nations, that sometimes not even the names and dates have escaped of those who intrigued or fought for empires,— nor much of the real character of many of the happy accidents that improved, or the avenging scourges that oppressed, the millions they ruled; and less still has there in such cases come down to us, with certainty, much of the true origin and progress of all that then contributed to advance either national wealth, happiness, or power. Hence, amidst doubtful researches among such fragments of annals, what one seeker for truth now attributes to the forms of government, another traces to different systems of political economy, or peculiarities in public morals. And where one inquirer now thinks he can discover almost an elixir for greatness, and another detect the very canker which preys unseen on the damask of power, still another can only discover a dash of kingdoms after kingdoms on the shore of time, with almost as little apparent benefit as the break of the ocean

for ages on our own iron-bound coast. Indeed, every few centuries, it would seem that, in some portions of the globe, neither books nor manuscripts have ever talked to the eye, or both, from some untold disaster, have vanished. Thus the intellectual memorials of those who reared Palmyra, except her ruins — and the American systems of theology, and the arts and sciences which built and ornamented the cities of Central America, except their unknown idols and broken pillars, or crumbled temples and forest-covered mounds, — and thus, most of the genius and acquirements which overawed northern Europe, from the Druidical groves of Germany and England, in ages as rude, if not earlier and cloudier, — all have perished!

But more marked still is the darkness that covers the antediluvian history of the earth. There has been almost a total loss of more than two thousand years of human efforts — a destruction of the benefits of near one third of the life of the human race, human experience, human examples and acquirements, and, except the fragments preserved in sacred writ, scarce an echo reaches us from all beyond the dread bourne of the deluge!

In the absence of printing and the loss of written records, even painting and hieroglyphics — where, in some countries, cultivated for historical purposes, and spared from devastation by their Vandal invaders — even they, where not since entirely corroded, have slept for ages undeciphered, and their meaning remained as dumb as the wood or stone on which it reposes, and their object so uncertain, as seldom to have wakened devotion, insured reverence, or warmed patriotism, however they may, at times, have attracted admiration from some Marius seated in exile on the ruins around them, or some wandering Arab encamped under their shade. Indeed, the whole earth has been called a graveyard. In this way, however, it is so; not only as to human bodies, but their minds, their deeds, the intellectual graces and moral glories of our race. These seem, from age to age, not unfrequently to have crumbled into dust as undistinguished as that of the millions of tongues which once sung heroic exploits, and of hearts that beat high for fame, and of sinewy arms that helped to protect the hearth and altar, and "cultivate, in peace, the fields they defended in war."

If, as Shakspeare moralized, the ashes of Alexander and Cæsar may, in time, have become applied to the vilest uses, or, as Shelley reasons —

> "There's not one atom of this earth
> But once was living man;
> Nor the minutest drop of rain,
> That hangeth in its thinnest cloud,
> But flowed in human veins" —

may not the histories of many Alexanders — the moralizings of wisdom, no less than the fierce struggles of ambition — the brilliant pro-

ductions of many Shakspeares — the discoveries in the heavens by Newtons and Herschels unnumbered, have contributed to form the very soil now tilled near the sites of Babylon, or the ancient palaces of the Incas and Montezumas?

How often catastrophes so disheartening have crushed the most glorious labors of the mind, in both continents, doubtless sweeping off some dross and rubbish at the same time, is as unknown to us, under the uncertainty of history, as are the like revulsions which may have been going on since creation in the myriad of worlds which blaze above us. Perhaps we shall no sooner penetrate all the mysteries of one than the other. But sleep on, great and good spirits of all ages, known or unknown — discoverers, lawgivers, sages, or statesmen! sleep on, many of your mighty deeds and beneficent principles, doubtless well suited to improve a long posterity, but more the fault of others than you, and more our misfortune than yours that so little of them has descended to us. Enough, however, has been saved from the storms of time to occasion the deepest regrets for the losses and doubts caused by such historical wrecks, and to awaken much anxiety to prevent their recurrence hereafter.

Let us search then closely to ascertain whether any of these uncertainties, and their evils, can hereafter be averted, and how.

If, as some fear, all of them are beyond remedy, nothing remains except to shudder over our palsied condition. But, though unable to accomplish everything desirable, it should not, in my view, deter us from doing something, if practicable; and it seems to me, under the influence even of temperate hopes, to be rational to expect much from efforts more systematic, discriminating, and earnest.

Thus, whenever we can trace any of these uncertainties to distinct causes, it is philosophical to remove the causes, and in this way prevent the evils; and, when they cannot be removed entirely, to seek to counteract, or in any way mitigate, their prejudicial tendency.

In this mode, those which have arisen from imperfections of the senses have been, and can continue to be, diminished, by efforts so obvious as hardly to need enumeration. Take but one sense, for illustration — that of sight. The doubts which once existed as to the movements, qualities, and size of all distant objects, when viewed by the naked eye, and the evils resulting from uncertain accounts of them, have, in many cases, entirely vanished under the astonishing powers of the telescope. Even as to those remote bodies that float so many millions of miles above us, the uncertainties about them have, by modern improvements, been so much removed, that we now know their revolutions with almost as perfect correctness as those of the earth itself, the capacity of some to be inhabited or not, and the immense bulk of others, exceeding ten to a hundred times that of the globe itself; while the same species of improvement, conducted with similar accuracy and patience in making and recording observations, has pushed the powers of human vision so far, in respect to smaller objects, as to

disclose numberless microscopic wonders, where all before was uncertainty or ignorance. It has thus increased the power of the eye, not only in acquiring knowledge, but in performing many of the most difficult mechanical labors; and has contributed to the enjoyments of all, by opening new worlds of being, to delight, instruct, and astonish, whether in the smallest drop of water, or on the lightest leaf. Without dwelling upon this, all must see that we are only in the infancy of such improvements, and that science, by further perseverance, may thus pour further light on what is obscure as to the history of many things — animals, vegetables, and minerals — which intimately concern man in his present state of being.

But the evils in historical uncertainties arising from the moral obliquity of the heart, and from habit and extraneous influences, are much more difficult to trace, as well as to remedy. Whether their direct cause be, as it often is, ignorance or passion, carelessness or haste, interest, party, or vindictive prejudice, they do not seem to me to be entirely incurable, though some entertain but little confidence in any means to remedy them, short of new supernatural aid. But, on an occasion like this, avoiding the discussion of any problematical questions, I shall advert to no interposition of Providence beyond what has already occurred, or what all that live hourly experience. Keeping this consideration in view, what, then, are the great remedies?

First, we have, for principles to guide historians, as well as, in many respects, for a beautiful model, the sacred history of mankind. Surely they can more nearly approach, if not equal, some of the excellences which pervade that — such as its pure-mindedness, its crystal clearness as to facts, and its striking condensation. The history of a whole people for four thousand years, and the biography of the most remarkable being known on earth since time began, with the acts of his apostles, and the entire body of divinity he, as well as the prophets, taught, are all compressed into a single volume; and by the clearness, simplicity, and truthfulness of its narrative, and the lofty rules of action it inculcates, has helped in all ages since to reform an apostate world. This at least can be imitated closer, where not equalled in form; while in its substance, abating the difference between inspiration and human skill, a spirit of caution, purity, and vigilance, can shun all wilful uncertainties, and lessen much those resulting from inadvertence.

But, descending to more specific rules, and drawing instruction from all sources, it must be obvious, that another of the leading means to prevent uncertainties, must always be to avoid haste, and increase research. Writers must never flag in labor, patience, and painstaking. Most that is valuable is of slow growth. The "brave old oak" that has stood "the storms of a thousand years" is much slower in reaching maturity, as well as much more valuable, than the mushroom; and the elephant, whose gestations are "few and far

between," produces only elephants — animals of size, power, and length of life, worthy of their origin — instead of ephemerons.

Another efficient mode of improvement is to cherish more singleness of purpose. Improvement should be, not only a paramount object, but the first, second, and third. It should engross all the energies of the soul; and when those energies are dedicated to historical compilations, they should be exclusively devoted to it. There should be nothing else to weaken or divert the attention — nothing lukewarm in feeling, nor amphibious in habits — but a single heart, a whole heart, and an earnest heart, intensely engaged in clearing up what is obscure; and, instead of tamperings and misgivings, or suppressions and colorings, boldly recording for the future the naked, unvarnished truth in all things — yes, "the truth, the whole truth, and nothing but the truth."

Another remedy is to distinguish with greater accuracy what is really uncertain, and hence needing more illustration and research, from what is so only temporarily and in appearance. For, amidst many of the doubts in history, they are not always unmixed with a clear conviction as to some prominent and general results; and thus, amidst lights and shadows, crossing and bewildering at first the public eye, there will, when the excitements of the day subside, and the passions of the moment are hushed, be a few facts, which, by due discrimination, are fully verified, and standing forth forever incontestable. Without such a discrimination, much time will be wasted; and without exceptions like these, much more of history would seem to be an unalloyed evil. To explain this distinction, by an example or two: It is now clear that, whatever any one may think as to Carthage or her conquering rival — which was most Punic in faith, and which was most inexorable in revenge — nobody can doubt that the former was overcome, and most of the memorials of her vast commerce and extensive influence in civilization were relentlessly extirpated.

Few can now doubt that the masses in France possess more intelligence, security, and power, than they did before the revolution, whatever differences of opinion may still linger as to some of the supposed oppressions which preceded it, or some of the atrocities which followed. Nobody can now question the more rapid progress made in civilization, over both Europe and America, since the discovery of the latter, whatever may be the diversity of views as to who was the first fortunate finder of the new world, or as to what have since been the crimes and virtues displayed towards its aboriginal inhabitants.

Can any, also, disbelieve the existence once of such a being as Christ, and the ameliorating influence of his doctrines, whatever conflicting opinions may be still entertained concerning his divinity?

Or can any now question the benefits of steam in the arts and in commerce, fatal as have been its explosions, or doubtful as its first discoverer? and who dares compete with Fulton for the new application of it successfully to motion on the water?

Nor can any now, after careful reflection, deny the utility of machinery, by which the labor of millions is yearly saved or added, however many individuals may at first have been thrown out of employment by its introduction, and however deep the doubts and darkness may yet rest over the inventors of the plough, the loom, the axe, or the graceful ship — inventors as distinguished in their day, and machinery as important to the welfare of mankind, as Whitney and the cotton-gin, or Arkwright and the spinning-jenny.

It is thus that, among our painful regrets at many uncertainties in the past, there may be constantly mixed the satisfactory acquisition of a few great results, if we only analyze and discriminate, rather than hastily condemn the whole in a mass; denouncing it all, as some have, to be no better than an old almanac, or, as others do, unauthentic as the Arabian Nights' tales.

In this way, too, as all is not shrouded in doubt, a gloomy scepticism can be avoided; and our energies, instead of being wasted on what is either impracticable or indisputable, can be concentrated on the illustration of something feasible, useful, and, at the same time, really doubtful. Beside some such great results, we can also gather up, by patient research through the long vista of time, a few scattered gems of various value, and, as in modern travel, find, half hidden in the dust of ages, some rusty coins, broken statues, and fragments of altars and temples. Though acquisitions such as these might not alone edify so much as amuse, yet, in the whole concerns of the race, they often illustrate what was doubtful, and to many persons always possess an innocent as well as gratifying interest.

Another mode of throwing stronger, if not new, light on what is uncertain and obscure, is by more attention to those very matters in connection with others, and thus to widen the range of inquiry, and draw historical aid from collateral illustrations in all quarters and on all topics. There is something from the events of life, and most of their concurrent circumstances, which every hour, by slow and almost insensible degrees, is wrought into the very organization of society itself — incorporated into all its substance and progress, mingled with its usages, moulding its ordinary occupations, tinging with various hues its laws and literature, and, in fine, modifying even its religious creeds. It is absorbed in the growth of communities, and gives a different character to them, as air, earth, and moisture enter into the growing plant; and in both cases it becomes a part of the very fibre and heart, as well as bark or color. As the nutriment thus furnished is appropriate and useful, the growth is rich and beautiful; while, if bad, it becomes dwarfish and useless. By examining such circumstances, we discover the manner in which the character of nations has been formed, like the surface of the earth, or a transition rock,—here a layer of one kind and thickness, there another, different both in quality and size. We obtain a sort of petrifaction of the currents of life, as they run onward in various places and ages. Even the ordinary

amusements of a people indicate something of the national mind and taste, especially if they are, as has been quaintly said of ours, such novel amusements as banking and the credit system. Indeed, in this historical search, we should overlook nothing human; and, in the whole circle of existence, should scrutinize not only civil and political affairs, legislation and government,— not only, too, religion and the arts, with literature and science,— but geology, climates, soils, and all their products, wonderfully interwoven, often and highly important to the moral, no less than the physical condition of mankind.

What floods of light are to be poured in this way on what is obscure, may be imagined, when we reflect that the researches of modern geology alone have crowded this whole planet with new wonders, and made its caverns, stones, and mountains full of the history of its growth, and of the plants and animals that in ages past inhabited it. Another aid will be to persuade every possessor of important facts concerning individuals of eminence, as well as valuable improvements, to communicate them with more freedom to the world. So with all interesting journals, as well as letters, memoirs, and curiosities, in the whole ranges of science and of natural history. They may develop some new traits of character, or throw out new light on both the animal or vegetable kingdom, or advance science or the arts by some experiments which inventive genius may, in solitude, for the first time have tested, or present new views on some principles of action, which, by the patient or headstrong, may, on some retired theatre, have been pushed further. Or they may unfold momentous facts to set history right, which pride or interest may for a time have suppressed, or may open discoveries, or the germs of them, in physics or mechanism, destined to revolutionize society.

None should despair of great benefits from this, when they remember what progress has been made in only the last fifty years by increased attention in academies, colleges, institutes, and governments, no less than by individuals, to collect and preserve statistical facts. What new data have been procured by them as to diseases and their causes, the resources and expenses of governments, the extent of their commerce, manufactures, and agriculture? What additions to the means for just legislation, and the true understanding by nations of the profit and loss by their groundless jealousies, non-intercourses, reprisals, and wars? The last census of the Union, however imperfect in some particulars, may be proudly pointed to as a monument of great usefulness in inquiries like some of these, not only to us, but the civilized world.

Nothing can more strikingly illustrate the greater certainty that may be approached, if not attained, in many historical data, and which some improvements in modern times, especially in the sciences, have, by great care, actually reached, than the exact description, even long beforehand, of distant eclipses, and, in nautical almanacs, the accurate calculations, even to seconds, of some coming events, thus "casting their shadows before;" and, what we have been less accustomed to, till

the use of steam, the certain regularity with which packets cross even an ocean, not differing a day often from the time anticipated; and the still more remarkable exactitude, considering the distance and nature of the service, which was attained by the care and skill of the commander of the late exploring expedition. After navigating two oceans, fulfilling various engagements, and making a large number of scientific observations, he was able to reach Sidney, in New Holland, and take his departure thence for the south pole, within twelve hours of the time indicated in his instructions a year or two previous, on the opposite side of the globe!

Carry a like caution and accuracy into everything,— in recording as well as observing,— and how much sooner could many doubts still remaining be solved? In science, for instance, by this course it could not be long before it must be certain whether or not electricity, galvanism, and magnetism, are essentially the same agents; agents so important, that some of them not only aid in the cure of disease, but are probably vital to the whole economy of animal and vegetable existence, and in other views are not only indispensable, through the needle, to track forests and traverse oceans in safety, but, by American ingenuity, have enabled us to draw fire harmlessly from the heavens,— and, through the electro-magnetic telegraph, to write with a pen in lightning, and send even ideas instantaneously for miles. Whether, in brief, the great northern lights are governed by some physical laws connected with either of these marvellous powers, or are independent in their gorgeous movements; and thousands of other doubts and perplexities which have agitated the lecture room, the laboratory, and closet.

So, in respect to many of the secret springs of human action and human welfare, it is a course like this, and only a course like this, which will ever enable mankind to accomplish that great desideratum in modern times,— the removal of all doubts as to the best systems of education and industry; or to solve those other problems in society, so difficult, yet most interesting,— how to reconcile the interests of the few with the many,— how to harmonize obedience to law with the soundest, if not largest, liberty; and, what is practically still more vital, to convince all as to the equal claims of the poor with the rich, to have such laws and institutions govern as are calculated to insure to virtue and industry an equal enjoyment of all the necessaries of life, and prevent avarice and cupidity, whether in the toils of mines, factories, or elsewhere, from tasking infancy, want, and dependence, beyond the just limits of humanity and public morals.

The last direct aid in preventing historical uncertainty, which I now have time to particularize, is to strive more to cast away passion, prejudice, and party,— those prolific sources of error,— and, on occasions so responsible as that of writers professing to bear testimony to the truth for enlightening posterity as well as the present generation, to have the head and heart warmed into the strongest sense of accounta-

bility. Let nothing be feared but God. If such a feeling were in the ascendant, there would grow up everywhere a firmer assurance in the result that industry and unbending integrity should reach, when devoted to a subject of such high moment. This attitude, so lofty in the composer of regular history, should be inculcated and imitated through its remotest ramifications, whether in biographies, sketches, voyages, travels, or even a newspaper and magazine. Though all the writers of these may not be able, on every occasion, to act like the god of the stoics, as if formed of intellect without passion, yet all should feel the solemnity of their duty in such positions, to write unwarped by passion as well as undismayed by the frowns of power; and they should evince, whenever demanded in support of the truth, a self-forgetting, self-sacrificing spirit, above the slavery of party, and no less impartial and just than fearless.

With a view to remedy the evils resulting from historical uncertainties, it is necessary also to exert untiring efforts to preserve as well as improve the records of mankind. It has been shown, that nearly as much is suffered from their mutilation and loss as from original imperfections. During the last three centuries one great engine, and probably the greatest to secure the preservation of history, has been the art of printing. Every year, as it has embodied the truth, quicker, easier, and oftener, it has diffused it wider and at less expense; and has thus interested millions more in its safety. It is susceptible of still higher advances, to aid certainty in history by pushing improvements, in all those particulars, still further. When well directed, nothing can, with so much certainty, seize and preserve the Cynthia of the minute in opinions as well as fashions,— nothing so well give, in all things, the true "form and pressure" of the times. Indeed, the experience of near four hundred years has evinced, that the Proteus, ever changing in politics, literature, taste, and all the scenes of busy action, can be arrested and painted to the life only by this consummate artist, whose colors, though few, are durable; whose canvas, though thin as paper, can be made as imperishable as time; and whose pencil, in the type, will survive everything but the wreck of matter.

The multiplication of copies of all important works, which this will tend to produce,— the more thorough diffusion of them, which their reduced price will encourage,— the increased intelligence to understand them, and appreciate the importance of their preservation, would then exist, and would require that the whole mass of any society must be extirpated before all its historical memorials could again perish.

The more the power of the press is thus extended, the more also will different compilations operate as checks on the uncertainties and other errors of each, and thus will improve the character and quality of what is written, no less than increase the quantity.

In order to excite greater care, activity, and interest on this point, let me present here one illustration,— and it shall be only one,— of the importance of this accurate preservation of the memorials of former

experience. It is this: We may, from our ancestors, receive governments, religions, codes of law, and numerous institutions alleged to be good. But where is the testimony in their favor without historical records? When free inquiry or impatience of authority dare,— as they may, in the liberty wisely allowed here,— to question their excellence, how is it to be tested, unless their origin, progress, and influences have been honestly chronicled? On any excitement or novelty, everything will, otherwise, be set afloat. True, we may talk and argue in their support, but there will be opposed argument to argument, conjecture to conjecture, and one confident assertion to another, and there will be no anchor to the judgment, nor security and stability in public opinion, without some such steady light as recorded and certain experience. Public opinion might still be gigantic in power, but it would be blind, and, under occasional reverses, incident to the best human systems, or under some plausible innovation in bold and bad hands, or under some sudden impulse, some fierce enthusiasm, or some ferocious fanaticism, all the foundations of government may be shaken, if not uprooted.

The moderns, in such cases, instead of being regarded, as Bentham called them, the real ancients, living in the old age of the world, with all its facts and experience treasured up for guides, would either have none on some points, or, in the uncertainty of history in many cases, would have contradictory facts, incoherent and imperfect truths, halting and lame experience, doubting pilots, blind guides, and cloudy and shifting landmarks.

From all these considerations, it would seem that, to some extent, the cure of evils like these is both feasible and useful, and that it would contribute not only to the purity, stability, and excellence of everything which advances civilization or glory, but insure their continued increase, as well as wider diffusion far beyond one generation or people, even into the whole length and breadth of humanity.

On this occasion there is not time, without tediousness, to enumerate more of the means of improvement in respect to the uncertainties in history and their attendant evils. But that these few means, if faithfully exerted, would do much to reform not only the character of the annals of mankind, but mankind themselves, will be obvious from reflecting a moment on their natural tendencies. For, consider how many of the present contests in judicial tribunals to ascertain rights, and of the party struggles to settle public policy, with not a few of the polemical controversies to adjust points of doctrine, would, by the prevalence of such a new temper and such new practices, lessen, if not in time entirely disappear.

When a reverence for truth thus becomes more inwrought and habitual on all occasions, the whole reading world will of course become more confiding in what is written; and there would then prevail, and justly so, everywhere, more faith,— more in almost everything,— more in nature, more in Providence, more in man and his

prospects, and, in short, more inviolable faith in history. Nor will such a faith be inconsistent, and, as is frequently now the case, be uselessly seeking impossibilities—such as persecution and oppression reconciled with pure religion or humanity, and true liberty coëxisting with licentiousness, public economy with private extravagance, and vigor with divided councils, or prosperity with idleness, waste and disorder.

But it would be enlightened and rational faith, as the chronicles of life might then well be looked on as nearer real "daguerreotypes of the age;" and what are called facts thus becoming in reality much closer to the truth, all opinions and theories would have a foundation far more solid to build on, and every event operating as a lesson, and every acquisition a step onward, the mind of society would in this way hourly add to its treasures what was reliable, and would be constantly developing in results more of the excellences of that inductive philosophy so eloquently recommended by him whom Pope eulogizes as "the greatest of mankind."

Without going into illustrations on this point, the general inference appears just, that, under such a course, existence, everywhere and in everything, would tend more to become a continued school, since the whole world would be a laboratory, making daily experiments and discoveries for the whole, and for the future, as well as the present; and the mind of all would thus unremittingly coöperate for all. If we should thus fail, as we might, in realizing the hopes of the most sanguine—that not a shell need be washed idly to the shore, nor a crystal sparkle without instruction, nor a leaf drop, nor even a sparrow fall, without imparting knowledge or improvement,—yet it is certain that the tears would never flow from misfortune, nor smiles enliven the face of hope, nor a passion of any kind animate or depress, but their causes and consequences would be better understood, and, indeed, everything valuable be more known and common to the whole. Instruction and fellow-feeling will more pervade both the palace and the cottage,—"the court, the camp, the hamlet and the grove." The extremes of society, in rank or fashion, wealth, or even genius, will more learn that they need mutual aid, have a common nature, a common origin and destiny, and should intermingle benefits, as well as sympathies, for mutual progress and safety. In short, man will more be regarded everywhere as a man, and as nothing anywhere but a man. At least, the indomitable spirit and the enthusiasm to improve, and the love of truth, will then be more aroused and more common, and more conquering over all obstacles. More people will then comprehend thoroughly, and hence duly appreciate, the high moral courage which dares do the right under all obstacles, however formidable; and thus more will be encouraged to sustain the right, and to hazard for it, when necessary, everything dear, in defiance of the tyranny of custom or fashion, no less than the dungeon, the fagot, the bastile, the cross, and all those

tortures which martyrs to the truth and victims to oppression have suffered in the worst of times.

But many such sacrifices will then gradually cease to be necessary, since the whole race, as advancing beings, and destined to form perhaps in time one great brotherhood, will be likely to look on each other with increasing charity, and will gradually approach nearer the original unity of the human family. And if one language, in such wide dispersions, should not again be found feasible, and be used by all; or one form of government, in such various conditions of the race, does not prove the greatest blessing to the many, and hence find favor with every people; or one code of laws, under different wants and positions, not appear to all nations superior in leading features, and become as sacred as the civil or common law have been to particular communities;—yet we hope that one religion would prove truest, and pervade the whole, and undoubtedly there must be a closer and brighter view of all this promised land. For certainty instead of doubt, coöperation instead of hostility, and all the powers of man more unitedly crowding forward to certain great ends, rather than paralyzed by half being antagonists to the rest, will in time more improve the world, as surely as gentler influences, and a union of forces of any kind, are most likely to triumph over division and strife. So, all the faculties, being then measured, as well as applied with greater accuracy, a juster discrimination can easier separate the practicable from what is visionary, facts from fancy, the casual and incidental from what is necessary or inevitable, the right more from the plausible. And thus, then, we not only ought to but would have what are the glory and bliss of freemen in every age,—light and publicity, instead of secrecy and mysteries; liberty, rather than its shadow; patriotism, and not its phantom; justice, rather than the mockery of it; justice, too, in social life, and literary criticism, and in the struggle of politics and polemics, as well as judicial controversies. We should then, also, not only know more what has been, what is, and hence what probably will be; but we shall know it with a certainty and truthfulness likely to bear fruits, and insure to us higher progress, and light up daily the prospects of humanity; and, in this way, there will be a more tolerant mission in all things useful going on reciprocally among nations, no less than individuals, which must in time go far to renovate the world.

ON SOME OF THE PECULIAR TRAITS OF AMERICAN CHARACTER.*

By the first article in the Constitution of the New Hampshire Historical Society, it appears that the leading object of their Association is to illustrate the history of the United States in general, and of this State in particular. On the present occasion, I am anxious to do something to advance that object. No topic has occurred to me, by means of which I may be able to contribute so much towards it, and at the same time interest in any degree a mixed audience, as by offering a few considerations on American character. By this is meant the character of the people inhabiting these United States — or, what a committee of the New York Historical Society recommended to be called "Allegania," (fortunately without much approbation from any quarter.) The rest of the Western Continent is not embraced within your Constitution, nor need it be, in order to get "ample scope and verge" for the most industrious researches. Nor can there be any doubt of the importance of inquiries into national character. The principal traits in it, if ascertained with accurate discrimination, are useful for purposes moral, social and political, no less than historical; as it often happens that in this way we become enabled, beside settling doubtful facts, to establish great landmarks in the progress of civilization, and more surely imitate what is best, and improve whatever is imperfect, either in manners, or government, or the arts.

By such a course, also, all, living within the glorious brotherhood of our Union, will come to prize each other higher, because they will know each other better; and, at the same time, they will be prized higher abroad, because they will become known the more truthfully than is usual through the strifes, rivalship and prejudices of ambition and party. Indeed, by careful scrutiny on this subject, each generation may be made a teacher to the whole which succeed it; while, by a contrary course, — omitting to trace out particular influences on character, and to learn the great laws which govern them, — the past becomes almost a blank to the future for good, and is little better, for any purpose, than a book of accidents, or an unfinished play.

In making these inquiries, as connected with our own history, it must not be taken for granted in the outset, as is sometimes the case, that because the people of the United States live in a *new* world, and in some respects under new forms of government, and new systems

* An address delivered before the New Hampshire Historical Society, June, 1845.

of laws, all the traits in their character will be novel or peculiar. On the contrary, we still agree with other nations in *more* things, perhaps, than we differ from them. Being men, we continue to be in many things as the same immortal creatures elsewhere, with form divine, "so noble in reason, so infinite in faculties." Being civilized men, too, rather than barbarians, we possess much in arts, arms, manners and habits, that is common to all people in civilized life; —as the field, under cultivation, always produces a different growth from the forest. So, being Christian communities, our religious and moral opinions cannot but accord, in many essentials, with those communities elsewhere that read the same inspired volume and trust in the same hallowed faith. In a like manner, being republican in our forms of government, every attentive reader of history must be struck with the resemblance, in many particulars, between the citizens of other republics and ourselves—between the busy Athenian, for instance, and him who hurries to Faneuil Hall on the eve of an important election; or between the more agricultural Spartan and the thoughtful tiller of our inland mountains; or between the proud Roman and the lofty planter of the South. If any one has leisure to trace still further resemblances, such as Swiss bravery and fidelity, or Dutch honesty and enterprise, worthy the best days of William Tell or the DeWitts, the latter can readily be found in our thousand marts of commerce, and the former on almost every hill and prairie of our wide-spread Union. Nay, more; being sprung chiefly from that Anglo-Saxon stock, of which we hear so much both in poetry and prose, and which has for ages advanced and adorned some of the best portions of Europe, it would be a marvel if, as a whole people, we differed in *most* respects, rather than agreed with the great parent race; and, merging many slight diversities, and breaking down minor obstacles, if we did not aspire in this new hemisphere to run a career similar in some respects, but surpassing, we hope, in others, what has distinguished the brilliant progress of that race on the other side of the Atlantic—overshadowing, it may be, in time, by our new institutions, the decaying energies of theirs, and, retaining all which is good from the past, prepare to outstrip, by new additions, new inventions, new means, and new efforts, all which has preceded us.

While it becomes certain, from considerations like these, that all the traits in our character are not novel, it is equally certain that every philosophical observer will see that causes have been at work deeply, and combinations forming wide and long, in this new world, to make several of those traits different in various degrees from what exist elsewhere. For example: We are tinged by new lights and shadows from our different origins, from our different positions and pursuits, different laws, different institutions on some subjects, and different ramifications in opinion on several matters, both of politics and religion. In many of these, and especially in the aggregate, composed of them all here, the difference is strong between us and most other

countries, whether ancient or modern, or remote or near; and in some things is strong enough to form very marked national distinctions between our character and theirs.

In considering and explaining this position, several objections deserve a moment's consideration. The strongest, and that which meets every inquirer at the threshold, is, that, differing as we may from other nations, yet the diversities among ourselves in the matters just alluded to are numerous, and indeed so great as to be irreconcilable with the idea that any features of character can prevail over the whole face of our country with such uniformity and prominence as to be considered national. But, granting that those diversities here are numerous, they are not great in all cases; are counteracted in some, when great; are neutralized in others; and in many are either so amalgamated or absorbed by more powerful influences, that they no more prevent some very uniform characteristics among Americans themselves, than the spots on the sun prevent its general brilliance, or the roughness and inequality of the surface of the earth prevent its general roundness. Thus, for example, portions of our country differ in climate. Yet, instead of stretching into torrid or frozen zones, we all are collected within the temperate circle; and hence, though the average heat or cold in a country may not be without influence on the food and clothing of its inhabitants, and consequently, at times when great, may vary their avocations as well as pleasures, and create different wants, arts and pursuits,—yet, our differences in climate are too small, generally, for causing any striking diversity in our character.

Again: In some places we differ in our origin, and many are proud of an English descent, others of a Scotch, and others still of an Irish or German. Yet, all of us are much alike in the original Teutonic stock; and the aggregate collected here is made up from materials still nearer alike; as most of the emigrants hither separated from the several branches of that ancient stock, because agreeing closer with us, and liking us better, notwithstanding some variety in our origin there. What exists here is very similar in itself, possessing wishes and aims on most subjects so congenial, as to have attracted them together from vast distances, and evincing in some things a character as uniformly and strongly marked as any of the nations from which we sprung, and so much alike as to enable us to have done what would otherwise have been impossible—stand shoulder to shoulder through a most arduous revolution and wars, coöperate prosperously in new governments, laws, and arts of peace, and preserve a political Union, indissolubly and gloriously, amidst all the trying scenes of more than half a century. This same idea is illustrated with equal force in our religion. Differing, as we certainly do, in subordinate tenets, and split into thousands of sects, still, with slight exceptions, all our denominations are Christians in faith; and all, with like exceptions, having been planted here by persecution and oppression, upheld by the arm

of civil power, are strenuously opposed to any union between church and state. In forms and details, and creeds also, though we may vary in public worship, from a Shaker meeting and a dance, to the plainness of a Puritan congregation or Methodist camp-meeting, or even to the pomp, paintings and embroidery of a Catholic cathedral, and differ in our articles of belief from five to thirty-nine,—yet, there are among us no Mohammedan victors, tyrannizing over Christian slaves; but all try to conform to the spirit of the same sacred volume, and an homage of the heart to the great Author seems to pervade the whole, however the surface may at times be rippled by such disputes as those between the New and Old Church, and between Trinitarians and Socinians, no less than by the excitements of Transcendentalism, or Puseyism, or Millerism.

So in politics: Notwithstanding we have all shades of opinion, from monarchy to a repudiation of every species of government, and from a preference of mortmains and entails, seeking, under the plainest of democracies, to rival the princely possessions of despotism, down to the propriety of a community of property and the vagaries of Fourierism and Saint Simonism, yet no traveller nor historian should write us down a nation of agrarians, any more than one composed wholly of monopolists and aristocrats; for the general features of the whole are republican, and, instead of anarchy and violence triumphant, show the laws to be respected, liberty to exist without any unusual degree of licentiousness, personal privileges to be equalized, the rights of property protected, and the interests of the masses both guarantied and promoted, without endangering any just claims of classes that may be richer or professional. We may differ likewise in some details as to tariffs and banks, distributions, corporations and bankrupt laws; but while none of these diversities become entirely sectional, they disturb the general tranquillity little more than the passing summer clouds extinguish the light of day; and when some differences assume more of a geographical aspect, and peculiarities in opinion on some social and political topics become chiefly prevalent in opposite sections of our common country, the bitterness is soon softened by a thousand assuaging influences. What if that looks occasionally like rank fanaticism to the South which is sober principle with many at the North? And again: what if that is carried into practice, at times, in the West, through certain lynch laws, which appears to the graver East as rather too rapid and informal an execution of justice for due security to innocence? It must not be forgotten that these peculiarities and practices are not approved by all, even where they prevail; that many of these are but temporary, and fast reforming, as public safety and opportunity permit; and that with the masses of our population, as a whole, a deep sense of justice pervades every rank, and that they agree, with almost universal harmony, in diffusing wider the education and morals which impart almost yearly a higher tone to our institutions and social refinement, and which bid fair to be as irresistible as steam in their

progress onward, for the correction of most of the abuses that still disfigure much of the Old World. From similar circumstances many suppose our traits of character too unlike for any general features, because seen at one time in country life and at another in cities. The differences between these are often striking, but I apprehend that they are no greater here than elsewhere, and the ingredients under or below the surface are much alike in both positions. Thus, though our people in the country appear more sedate, quiet, reflecting, icy,— and in cities more excitable, bustling, headlong; more like an ant-hill or swarming bee-hive; and though a poet has said, "God made the country and man the town;" seeming, in truth, to differ in some things as much as the labors of different artisans, yet, on a closer inspection, the same divine stamp is found on the heart and head of the whole; and one is supplied from the other daily, as much as is the ocean from its tributary streams; and, looking beneath the fleeting colors on the exterior, the ingrain wood of both will appear very similar. There is, in fine, between these, as between different and distant regions of our confederacy, a band, a host of moral causes, that operate with far greater strength than any physical or municipal ones. These work over the whole hourly, and among all ranks and on all subjects, to give us concord and uniformity in most of the great elements of character. This band is composed of what exists universally, with slight exceptions, in the "court, the camp, the grove,"— the city as well as the country, and our whole country rather than a part,— a common tenure of property, a common freedom in business, a common republican government, a common religious faith; in short, a common literature, language, interests and opinions, on most that is vital to the whole. All this is strengthened by an internal commerce and intercourse, diffusing these, and every other salutary influence of this animating and absorbing age of the world's history, with a speed no less than a thoroughness unsurpassed in the annals of time. These gradually mould all into much uniformity, and impart stability to our national characteristics; and without these in vain would we inhabit a temperate zone or prolific soil. The Turks and the ancient Greeks, so different, long breathed the same inspiring atmosphere of the Adriatic and Bosphorus; and the modern Italians and the Romans, wide apart in many things as the poles, cultivated for centuries the same vineyards; and the environs of Carthage and Mount Atlas have lamentably failed for two thousand years to reproduce the merchant princes who first ventured commerce beyond the pillars of Hercules, and the warriors who once conquered Spain, climbed the Alps, and carried terror to the very gates of Rome. Within that period the races have changed,— the government, the religion, the industrial energies, the vitality of the whole. Again: adverting to our rapid growth as a nation, and to the different manners and habits incident to its different periods or stages, one might at first suppose it impossible to discover any traits of character permanent enough and general enough to be deemed national. But on a little

scrutiny this also will be found incorrect. Take, as an illustration, the farmer. At the North he is at the present day a calm, industrious, "*calculating*" citizen; dealing much more with the scythe than the rifle, and looking far more to the education of his children, to be thrown off in new swarms to Louisiana and Iowa, as professional men or merchants, than he does to prepare to make any of them tillers of the soil in his own neighborhood. He is better informed, since enjoying more leisure from border warfare,— more enterprising, since enabled to cross the Alleghanies and the vast Mississippi, and make their wilderness blossom like the rose,— and more liberalized, since a long peace has allowed the passions to cool off some, from the bitterness engendered by our Revolution and the last war. It is also true, however sudden and great the change, that this farmer is a man of the same stock, and often on the same spot, where once the blackened timber surrounded his ancestors,— where the gun was the companion of the axe and hoe, in order to guard against Indian surprise,— where, afterwards, another generation rallied to the beat of the drum and sailed to the capture of Louisburg as if on a holiday adventure,— where next the youth of a subsequent age joined Rogers' Rangers to conquer under Wolfe at Quebec; and where, a little later, both young and old, more inflamed by British oppression and encouraged by former triumphs over their ancient enemies, the French and Indians, left the plough in the furrow to swell the grand chorus of liberty, and sustain their independence at Bunker Hill and Saratoga. But in all these changes, and others since, which might be detailed did time permit, it will be seen, on a little reflection, that they are mostly changes in condition rather than character. The tone of the public mind is generally unaltered. Its objects and companions become new, but its qualities remain much the same. There is a progress in the country itself, and at times in the social system, as from youth to manhood; and as some different hues are reflected from circumstances abroad, and some new developments, growing out of our altered political institutions at home and the wonderful inventions of the age, yet the people are the same,— the same blood, same form of bone and muscle, same dauntless energy, whether in the pursuits of peace or war, whether in chase of the moose and wolf, of the whale or sea otter, or on an Indian trail or exploring expedition across the Rocky mountains, or through icebergs to the Antarctic,— whether conquering a stubborn soil and impervious forests, or bridging rivers and tunnelling mountains for railroads and canals;— they have, too, the same free claims for conscience in religion, and the same bold, indomitable free spirit in government. Looking at similar classes of society among the pioneers of the West and Southwest, like changes to those at the North have occurred, in condition rather than character, though they began later and have moved with much greater rapidity.

The Sac and Winnebago Indians, for instance, but fifteen years since, were in Wisconsin very much what the Pequods and Narragan-

setts and Mohawks were, a hundred and fifty years earlier, to many of the first settlers in New England; and the inhabitants developed similar traits of character on that bleeding frontier. During the intermediate period, the Wyandots in Ohio, the Pottawattomies in Indiana, after the ravages of the Choctaws, Creeks, Cherokees, and others further south, disturbed, as was once the case here, the sleep of every border cabin, and drenched many a cradle in gore. But the hunter's habits, with his dangers and captivities, there as here, only more hastily, glided into those of the rough pioneer, felling the forest; and those of the latter, quicker still, have become moulded into what characterizes the tranquil husbandman, whether on the Connecticut river or on the banks of the Scioto. And "the hunters of Kentucky," so far as regards *condition* in life, have been produced in this country, and disappeared under different stages of our growth, as regularly as the fire-weed succeeds the native wilderness when burnt over, and as rye or wheat and grass follow the fire-weed after the use of the harrow or plough, and as the bee and the cow come after the Indian and buffalo. Under all this, however, the traits or elements of character in the same people alter but little, unless there is a large intermixture of new races, or a fundamental change in religion or government, or a revolution in circumstances of some kind, and usually of a moral type, affecting deeply their whole social relations. The bark of the tree, though it become thicker by age, or the surface of stone more polished by care, still have the qualities of the wood and stone much the same. No carving into classical forms can alter the durability of marble, nor can any hammering or burning convert granite into lime, nor any polish turn mahogany into the ruby or emerald.

There is another frequent error with strangers as to peculiarities in national character, which it is important to avoid in relation to ourselves. They are apt to seize on some bold or original genius, and describe him as the symbol of a whole people. But though such a genius may possess some traits in common with his countrymen in like condition, yet they generally have others, belonging to the individual rather than a class, and which spring from his particular position or particular cast of mind. Those others disappear with him. They do not belong to his class in society, nor long, and at times not at all, to the stage in the progress of civilization in which he happens to live. In this aspect of the subject, it is manifest how rash it would be to consider all American hunters as John Starks or Daniel Boones, and all frontier farmers, much less all farmers in America, as men like the Bishops and Rosebrooks, who a third of a century ago were so conspicuous in the "Coös above the upper Coös," near the giant spurs of the White Mountains. All of these men derived something from their origin, condition, pursuits and national associations, which may well enough be regarded as American,— but the rest was individual, and no more characterizes us as a people than if it had been found in Asia or New Holland. Thus, for a moment, as to Stark. When

gazing at his granite monument, which rises in such Doric simplicity on the banks of the Merrimac, near the beautiful falls of the Amoskeag, it must occur to all that the intrepid soldier who sleeps beneath, begun life as a trapper, and ended it as a peaceful farmer, in the midst of his children and grand-children. Neither he nor they changed so much in traits of character, as in the scenes around them, and the different employments growing out of them. It is the alteration in those employments and scenes that has impelled some of his descendants, though with similar traits of character, to direct their energies so differently,— some to seek fortune in the sultry heats of India, and others to help improve the face of nature nearer them, in agriculture and manufactures, rather than become Indian fighters at Penacook, or heroes at Bennington. But if most of the same general characteristics, excepting a few as individual, had not survived ingrain, and acted with like energy in them, and others near them, though on new objects, that pillar of hewn stone would have been a nameless mound of clay, like myriads in the wilderness of the West, and the picturesque city below, with its enterprising thousands, would have been the mere pine barren it was twelve years ago, or, as still earlier, an encampment of some roving aborigines, halting to spear salmon in the neighboring falls, or trap beaver around the beautiful ponds which border it on the east. But the personal habits and striking peculiarities by which he was most distinguished at home, belonged entirely to the individual, and had nothing to do with our national characteristics. So in relation to Daniel Boone: when he returned, one night, wan and weary, from an unsuccessful deer hunt in Kentucky, and resolved to emigrate still further west, where the bark of a neighbor's dog should not be able to disturb him or his game, it is evident that the love of the chase and of Indian adventure predominated in him much more than is usual even in a frontier race; — and, in this fondness for isolated life, he was so far from being a type of the whole of that race in character, as many imagine, that most of them are gregarious and social, and speedily, as even Boone himself did before his death, assist to subdue the forest, and sow among their descendants the seed of arts, letters, religion, and all the tender ties of a higher civilization. Kentucky is just going to pay a great tribute to the memory of Boone, in bringing home his ashes from Missouri, and having eulogies uttered over them by some of her most gifted sons. These changes in condition are now so sudden here, that what requires ages to be altered elsewhere improves among us in a single generation, and sometimes almost as soon as the cocoon changes into a silk-worm; and hence have I, and perhaps some others who listen to me, seen the children of Boone, almost within his own life, in the halls of legislation, winning public confidence, and pushing forward public improvements in the true spirit of our institutions. If we undertake, then, to write national character by seizing only on original geniuses, or delineating only their oddities, or by describing only the changeable colors on the face of a growing society, they will,

like the rainbow, mostly disappear before the description is finished, however some striking events in the career of such men may give to it a brilliancy which often secures to them, and justly, the cheering immortality in sculpture and poetry which the Caucicis and Byrons and Trumbulls of the age have so liberally awarded to them.

The other two persons before particularized, but whose traits of genius in detail we have now no time to enter on, were in some degree emblematical of the character of what may be termed the secondary formation in American society, as advancing into the interior,— that is, the frontier farmer, who has succeeded the hunter and Indian fighter. But it is an error to suppose, as some have hastily, that they represented accurately all of that formation, or even the mass of it, for much length of time, in a country so rapidly improving as ours. Look at them a moment only. Whoever has attended the sessions of a court in Lancaster, N. H., in days gone by, would never fail to behold Bishop *without* the lawyers' bar, as regularly as the attorneys *within* it. He considered a lawyer as an early client of mine did a speculator in land titles, as "the poor man's devil"— in the same sense as he used to say "the fox was the goose's devil, and the stork the frog's devil." Hence, Bishop generally managed his own causes, and rested them on what he called "*natural law*," with such scraps of statutes as he had picked up in the court-house or bar-rooms; and he usually found, in the end, according to the old adage, that the man who is his own lawyer "*has an ass for his client.*" But no stronger proof could be given of the folly of setting down such a person as the true exponent of most of our population, than the extensive employment of the legal profession among us, both then and since. Rosebrook resided in the same county, and was another rare specimen of a peculiar and temporary state of society acting on an eccentric mind. He had lived near the Notch of the White Mountains, isolated for many years from most of his species, except as visited by market sleighs in winter, or by a few stray admirers of the picturesque and mountain scenery in summer. He was rough as the cliffs around him, brave as the panther or catamount of his forests, and hardy at the plough as the rocky soil he cultivated. No man lived more independent,— centring as he did within himself almost all trades, and in his sales or accommodations to others considering himself rather as conferring than receiving favors. He was a lawyer as well as doctor, a mechanic, farmer, and, above all, a zealous politician — being called, during the last war with England, "the old war-horse of the mountain." But most of these traits were the result of his peculiar position and genius, rather than being the model or exponent of any great class in society for any considerable length of time. He was not imitated by scarcely any of his neighbors, or even by his own family, around whose happy fireside what wearisome traveller among the White Mountains, a quarter of a century ago, did not find modest piety and advancing refinement, as well as shelter and repose?

To dwell no longer on such considerations, it is certain that men like these never contribute much to stamp any permanent peculiarities on the American mind, because the position of the mass differs so widely from theirs; society here is in such a transition state, and their chief prominences have resulted so much from individual genius and their peculiar location. It is a mistake to hold them up as types of our character, either state or national. But at the same time it is certain that the personal qualities, opinions, and actions of individuals have, from time to time, exercised a broad influence on national character. A few have left an impress as to some things, likely to last for ages. As an evidence of this, it may be mentioned that about two centuries ago a brewer in Huntington, England, possessing great energy and independence of character, united with strong religious convictions, and with manners not particularly refined, did more to fix our early fortunes and impart to our fathers their tone and temper, in politics as well as religion, than all the crowned heads in Christendom. That brewer was Oliver Cromwell. Others of his cotemporaries, like Hampden, once meditated with him an emigration to our rocky shores, in order to enjoy here that liberty of conscience, if not freedom from political oppression, which were denied them at home. Co-laborers and fellow-believers, such men as Bradford and Brewster, of Pilgrim memory, felt with them but one pulse. Calvin and Luther had taught our fathers how to think in matters of religion; Cromwell and Hampden instructed them how to act as well as think, and in politics no less than religion, and Sidney soon showed them how to die for the former, when need be, as Rogers had for the latter. What tendencies, metaphysical or otherwise, Locke afterwards strengthened by writing new constitutions for some of our people further south; what durable impressions, in manners and taste, Penn left on Quaker Pennsylvania, or Lord Baltimore on Catholic Maryland, or the gallant Smith and Raleigh on chivalrous Virginia and Carolina, are matters of instructive as well as curious speculation, connected with individual influences on our national character, but which we have no time now to trace into details. One striking illustration may be named of the impression made on the American mind at the North, before the Revolution, by some of the statesmen and heroes conspicuous in planning and executing the conquest of Canada from the French. The engraved portrait of Pitt, the elder, became a favorite ornament for the parlor, and an excellent likeness of Wolfe adorned not only the parlor, but swung on the sign of many a village inn; helping, doubtless, at the same time, both to evince gratitude and nurse the intrepid spirit, in politics as well as war, which afterwards established our independence.

Reared among ourselves, some distinguished Americans have also helped to mould our national character; have been originals rather than imitators; have penetrated deeply the popular heart, and influenced in many things the opinions and lives of millions; while others, however eminent in their day, were a little more than types or repre-

sentatives of classes among us, moving in tune or on the same key with them, but seldom with courage and genius to strike out new light or new paths, and exercise influences to change permanently the tendencies of the public mind or public manners or public opinions. Thus, among the last, Morgan and Scammel were not, in mind or acquirements, very unlike many with whom they grew up, and have reäcted but little on our character; while Franklin, Washington, and Jefferson were more peculiar in talents, more *sui generis* in character, more suited to renovate, improve and guide others, and to act on them powerfully, not only in their own times, but in after ages, helping to give to them, long and deep in some things, their true form and pressure.

In other walks of life, the influence of such men as Cotton Mather and Jonathan Edwards, of Witherspoon and Dwight, need only be alluded to in order to show the wide ramifications of this branch of our inquiry, and the impossibility of pursuing it further on an occasion so limited as the present.

Passing, then, from these general views as to the uniformity in the leading features of American character, with the influence upon it from various causes, in certain stages of our growth, I shall next endeavor to explain more specifically a few of the more peculiar traits which have been developed here with most strength. One of them is *enterprise.* Mr. Jefferson, writing to Chancellor Livingston near a third of a century ago, observed, as to our character, that it is "enterprising and energetic as any nation on earth." This peculiarity is often exhibited in a fondness for new undertakings, and, at other times, in a more daring prosecution of old ones. All free people, and also all commercial people, are more adventurous than others. But Americans being, amongst the free, freest, and, amongst the commercial, second to none save one in the known world, have all the foundations deeply laid for the highest degree of enterprise. The proneness to it began with our birth as colonies. Most of our people came hither, of course, from a desire in some way to better their condition by a change of residence. This change was necessarily accompanied by the excitement and attraction of untried scenes, new risks, and sanguine hopes. Most of the original settlements, if not commenced solely for trade, were preceded by it, and attended and fostered by the boldest spirit of mercantile enterprise. The Board in England that had these matters in charge was called "The Lords of Plantation and Trade." Both objects were combined and paramount, though the first permanent establishment in Massachusetts, for instance, was, in olden times as well as since, regarded by many as made chiefly for religious freedom, though Winthrop's company in 1630 was only a company in trade and speculation, so far as the charter went. (11 Peters' R. 479.) Such, too, was the case as to religious freedom being mingled in Pennsylvania, Connecticut, Maryland, and Rhode Island. But the first settlements of New Hampshire and New York were ever consid-

ered as the result of mere commercial enterprise; — probably the real, prime mover as to the whole system of colonization, though often sustained and strengthened by other impulses, here no less than elsewhere. I say here, because, in slander towards New Hampshire, an ancient traveller was told that in passing from Rhode Island to Boston he would find "the *graces before meal* lengthen," and east of that, shorten so fast that by the time he reached New Hampshire "*there would be no grace at all.*" Yet long ere this, I feel bound in truth no less than patriotism to believe, that quite as much religion, and certainly what is quite as orthodox, must be admitted to exist here as in our sister commonwealth; while, in the mean time, I concede most cheerfully that the spirit of trade and enterprise has there, even faster than here, grown with their growth, vanquished all obstacles, and overshadowed that of every other State of the Union. Undoubtedly it was this trait of character, ripening in the East, so fast as it did in the first century and a half of our existence, that drew forth from Burke the beautiful eulogy so familiar to many of you. He says, "Pass by the other parts, and look at the manner in which the people of New England have of late carried on the whale fisheries. Whilst we follow them amongst tumbling mountains of ice, and behold them penetrating into the deepest frozen recesses of Hudson's Bay and Davis' Straits; whilst we are looking for them beneath the arctic circle, we hear that they have pierced into the opposite region of polar cold; that they are at the antipodes, and engaged under the frozen Serpent of the South. Falkland Island, which seemed too remote and romantic an object for the grasp of national ambition, is but a stage and resting place in the progress of their victorious industry. Nor is the equinoctial heat more discouraging to them than the accumulated winter of both the poles. We know, that whilst some of them draw the line and strike the harpoon on the coast of Africa, others run the longitude and pursue the gigantic game along the coast of Brazil. No sea but what is vexed by their fisheries; no climate that is not witness to their toils. Neither the perseverance of Holland, nor the activity of France, nor the dextrous and firm sagacity of English enterprise, ever carried this most perilous mode of hard industry to the extent to which it has been pushed by this recent people; a people who are still as it were but in the gristle, and not yet hardened into the bone of manhood."

This trait in our character has since extended and been developed over the whole country, though in forms and on objects somewhat different, but still commercial in their tendency. It has traced our longest rivers to their sources, explored our numerous lakes, spanned mountains with roads, filled our valleys with canals and bridges, no less than pierced polar ices and circumnavigated the globe itself almost monthly. Such a spirit has not sprung *from* laws, but has made laws, and moulded them so as to encourage a mercantile policy; not from constitutions, but enacted that of the general government mainly with a

view to commercial security and commercial objects. It was formed by causes deeper than any human parchments or compacts; in short, by our origin as a people, being mostly sprung from islanders; by our locality on long lines of ocean, inland seas and mighty rivers; by early habits and tastes; by interest, and vast success,—outstripping in commerce most of the oldest and greatest nations that encircle the globe. The sagacious Chinese long since described us, in this respect, as Englishmen number two. Quite as much as the Romans seemed from the start trained for conquest, till their soldiery in turn conquered the eternal city itself, and offered its purple to the highest bidder—our people have seemed born for, if not from, the ocean; fitted by position for navigation as admirably as the shell of the nautilus is by form; and however roving into the interior, since in their untamable enterprise and beaver-like industry they continue everywhere still to be true to their original instincts as the needle to the pole, still to be almost amphibious. How strikingly has this peculiarity in our character been verified in a way and where once least expected, by the immense tonnage of steamboats on the interior waters of the West and Northwest, and by the hosts of seamen there, almost outnumbering the Americans who plough the ocean. So is this same commercial enterprise of our people verified stronger and stronger by the princely fortunes whose foundations were laid in our remote and dangerous trade, half a century ago, among the savages of the Northwest coast, near Nootka Sound, and by the more recent fur adventurers, connected with the settlement of Astoria; an enterprise of a single individual, worthy a vast Hudson's Bay or East India Company elsewhere. I pass by, as branches of these, the daring hunting parties, sent from our cities to trap wealth on the banks of every river that tumbles from the Rocky Mountains; the dangerous but enriching Indian traffic in all our frontier forests; and the overland caravans to Santa Fé, laden back, through the worst of perils, with so many millions of coined wealth. I pass by these, and ask you to see this same enterprising spirit break through all the barriers and monopolies of oriental despotisms, so as to spin and weave for China as well as India; dig ginseng in Vermont and Maine, to gratify her palate; manufacture lead in Missouri and Illinois, to enclose her teas; construct canals around the falls of the Willamette, as was doing at the last advices from Oregon; levy contributions on the West Indies and Calcutta, for our ice even, and our rocks; and, without extending the schedule further, supply the consumption of three-fourths of the whole world in raw cotton.

Passing by our rapid growth in population and exported products, traceable much to this cause, what but an extraordinary spirit of enterprise here, would, in so brief a period, have given birth to so many works of public magnificence?—to our vast aqueducts, and breakwaters and excavations for harbor and river navigation; such splendid hospitals, custom-houses, capitols, cities; such a rapid growth in manufactures, agriculture and trade, over a territory also since enlarged

and enlarging to nearly double the whole of Europe; resting its borders on both the Pacific and Atlantic, as well as the Gulf of Mexico, and the vast Lakes, the Mediterranean seas of the North? The very failures in many undertakings are the strongest evidence of that unusual enterprise which attempts them,— outrunning, as it sometimes does, not only our means, but the general tone of this adventurous age itself. It is so predominant as occasionally not only to get ahead of the masses among ourselves, but to be obliged to pause for years before public opinion overtakes it. Thus Rumsey and Fitch demonstrated, by experiments here, the successful application of steam to navigation, near a generation before it was adopted in general use under Fulton; and Oliver Evans exhibited its power on land carriages in the streets of Philadelphia more than a quarter of a century before locomotives were used in business anywhere, and longer still before Norris manufactured them in the same city for Europe as well as America. How often, likewise, have the sites of some of our most flourishing cities and best waterfalls for machinery been preöccupied, and then abandoned entirely; or their business become sickly, if not suspended, for want of sufficient maturity, in capital or public opinion, to carry out so early what the far-seeing enterprise of some American discovered in advance of the age? In after times, however, the public may reap advantages from many of these enterprises, though disastrous at first to their projectors; and the tendency of such a spirit is, on the whole, conducive to general progress in improvement. It is to make the most of everything within or around us, or even at a distance. It is to seize time by the forelock in all undertakings; to grasp "the golden moment" ere it pass by; to lead lives of action, rather than reverie or sluggishness, and to experiment in everything which bids fair to yield advantage or happiness. If thus it should impart to us at times the character of a money-making people, it will be found, on due scrutiny, that it is not a sordid love of money for money; not the miser's frosty avarice, but another form of enterprise; seeking only the means of honest livelihood, or indulging in, what is so suitable in a republic, a laudable ambition to better one's condition in life, or improve the education of children, or found institutions of public charity and learning, or rear monuments to patriotism and glory.

Another consequence of this spirit of enterprise, when so fully developed as here, is, to make men fearless of obstacles. It arms almost every intelligent mind with courage, both in public and private life, to "dare do all *which doth become a man;*" and this draws forth usefully every energy of the human intellect, and every excellence which nature or science or art has spread before us. Cradled long amidst dangers of the ocean and of Indian revenge, our people evinced their enterprise, not only in the fisheries and commerce, and other walks of civil life, but at times it burst out in bold discoveries and feats of arms; deeds which seem chiefly to emblazon this trait of character among other nations. And in such deeds, if we have not rivalled such men

as Columbus and Mungo Park, nor had Hannibals devising new means to cross Alps, we have had Lewis and Clarke succeed in scaling the Andes of North America, in the face of barbarous tribes; Eatons in Africa contrive to cross its deserts and conquer at Derne; Jacksons to defend New Orleans by cotton bags, and numerous others capture hostile vessels and surprise savage foes by various stratagems that crowd our Indian and revolutionary history, and rival any in antiquity. All these,—social, civil and military,—all open up to us for the future a splendid vista. We see higher and wider progress among the masses, — progress in education, arts, in safer political power, in greater tendencies and securities as to peace, when, the many ruling, the game of war is to be played at their own expense and by their own free will, if at all, rather than by the caprice of kings; — progress, in brief, in changing the whole physical face of the country almost with the rapidity of magic. Where the red forester now paddles his canoe on some of the tributaries of the Columbia river, new Manchesters, or Chicagos, or Lowells, must spring up before the present century closes with what will then be sixty millions of American population. But, amidst these sanguine hopes, it should not be concealed that some perils accompany such a flood of enterprise. Sometimes the experiments ventured on not only prove premature, but are real abortions. Among the first may be classed those as to merino sheep, forty years ago, though so enriching at some periods since; and, among the last, those as to the morus multicaulis of more recent memory, and those in 1835 and 1836 as to lots in new cities in the West, then and now often inhabited only by eels and raccoons.

Again: they cause at times a wasteful shipwreck of morals as well as property, tempt to haste, and what is slight, superficial, or not thorough. It is natural, when so much is attempted that has before been untried, that not only something must be lost, but at times a gambling spirit must be fostered; and where the stimulus to exertion is so often gain, the heart is in danger of becoming hardened or relaxed in its moral tone, and less scrupulous as to the means employed for success. It is best to look these dangers in the face, if we mean to overcome them; and when consequences like these are foreseen, and the community forewarned and forearmed by the press and by the pulpit, and the author and lecturer, as behooves them all — then the community are more constantly on their guard, and an escape from much of the evil becomes more probable; and this, not only by precautions gathered from the past, and by passing admonitions around us, as well as those filling the pages of history, but by education more thorough, and all those high moral and religious sanctions which breathe both from nature and revelation, and are fortified by the loftiest powers of reasoning and the daily fruits of experience.

Akin to this trait of enterprise is another, which may be called the love of locomotion among most of our population. It is not material to the inquiry, whether this be considered as a branch of enterprise,

or a consequence, or synonymous; it belongs to the same family, and stands out in bold relief over the character of our whole people. An unusual proportion of them seem born to become citizens of the world. Not that they are inclined merely to emigrate from the country to cities, or from the mountains to the sea-coast, or from the more sterile East to the fertile soils in the West or sunny savannas of the South, but that they are essentially migratory for almost all purposes and to all places. They stand as ready, in most cases, whether for mere adventure, or a livelihood, or a fortune,— or, like Audubon and Nuttal, in quest of new objects of natural history,—to visit Oregon and India, as to remove to a different town or county on the Merrimac or Roanoke. Indeed, they have already built cotton factories in Mexico, carrying American machinery hundreds of miles, over mere bridle paths, on mules' backs.* They have hunted wild cattle for their skins in California, and manufactured barilla on its sea-coast. They have cut sandal wood in the Sandwich Islands, profitably, a third of a century ago; they have since cured beche le mere at the Feegees; trapped the beaver at Nootka Sound; chased the whale among icebergs as well as equinoctial gales; speared the seal near Palmer's Land at the south pole; made voyages to Japan; treaties with Siam and China; become even domesticated in the Celestial Empire; commanded in the fleets of Russia; manufactured cannon and ships in the dock-yards of the Sublime Porte; explored the Nile and the deserts of Africa, and served as warriors in both India and Afghanistan. Most of them consider "*the world before them, where to choose, and Providence their guide.*" At the same time, very far is it from me to regard our people as destitute of love of country or patriotism. Though, in some respects,

> ——"their father land must be,
> As the blue heavens, wide and free;"

and *wherever* liberty dwells, there, to some purposes, "*is their country,*" yet for other objects their natal soil is always prized as their own, and all its excellences, liberties and laws, are duly appreciated, and will be faithfully defended. Nor is this locomotive trait confined to the hardier sex. The busy spindles on our thousand waterfalls are watched by female eyes, most of them far from their native homes. Our emigrants in the remote West and South abound, also, from the feebler sex; and though in such places they may miss more the charms of society than men do, absorbed in the agitations of business

* Indeed, the very past winter I met at Washington a former member of the New Hampshire Legislature, on his return home to one of our fertile valleys, from a visit to a son-in-law in the western part of Mexico, who had removed there, and was conducting a factory for spinning cotton, and was compelled at first to bring the raw material from New Orleans, though surrounded by a soil and climate almost the original garden in America for that wonderful plant.

and politics, yet, even there, less is felt of the *maladie du pays*, or home-sickness, than by most other people. Abroad, in single life, if brighter prospects open to such women, in a sphere more profitable or refined, such as teachers at Cincinnati, Mobile, or even Galveston, they pursue them with characteristic energy, however at times their affections, in a stranger world, may force them to look back to the quiet abodes they left among our mountains. And in married life, who does not know the thousands that abandon all the comforts of the East, to follow their husbands or sons to the toilsome privations of a remote frontier, even, at times, within reach of the Indian tomahawk and rifle? And not a few, under missionary influences, penetrate the sultriest sands of the Equator, and risk the cannibal orgies of the Pacific; abandoning all the endearments of home, to brave the most tragic dangers in every ocean, in the cause of the Cross.* At some seasons, both sexes, when absent, doubtless remember the sweet fields of their native Argos, but not uselessly to repine after them. Those from the North may well call to mind New England Thanksgivings, New England feasts of shells, and New England mountains; but they do it usually to imitate the first, as once enjoyed among the last; and the recollection is usually full of gladness, rather than pain. Within our own Christian republic, our own land of liberty, law and order, of school-houses, Bibles, and homespun honesty and Saxon bluntness of speech, there is much to remind us, however widely separated, that we are, in most essentials, one and indivisible; that our household gods go with us wherever we go, and tarry with us whereever we stay. Within our own boundaries we thus continue, under all changes and diversities, one people, however lakes may expand or alpine cliffs swell between us. And, thanks to a benignant Providence and our representative system, and our yearly improved means of intercourse, no longer can it be said, as of old, —

> "Mountains interposed
> Make enemies of nations, who had else,
> Like kindred drops, been mingled into one."

In conclusion on this topic, it may be asked, why this fondness for removal should be more peculiar among Americans than others. I answer: One reason is, the greater certainty of bettering their condition, by such an abundance of cheap and fertile lands within our own limits; and another is, the right possessed here, and recognized for all, to emigrate and even expatriate themselves; a right not enjoyed in many other nations, and at times, when enjoyed, not accompanied by

* Among the hills of New England, the last season, I found in the stage a female, born in the northern part of Vermont, returning from a visit among her connections, under our cold skies, to her husband, settled on an Alabama plantation, making cotton; and another, who had visited the South, and then crossed the Atlantic, and was now only sojourning in her native valley in New Hampshire preparatory to another removal.

the ability to defray the expense. Another is, the liberal guaranty, possessed by all under our Federal Constitution, of being "*citizens*" in any portion of the Union they may prefer, and the prostration here of all those barriers against equal privileges in business or political power which obstruct emigration elsewhere. There is, also, much which tempts our youth to untried scenes and distant enterprises, in the manner in which this continent was discovered—whether by the Northmen, breaking through ice in the eleventh and twelfth centuries; or by roving Madocs from Wales, still later; or by the Vespuciuses and Columbuses, who were afterwards inspired by their examples, and other reasons, to search for new worlds, or to find lost ones. So, the mode of our original settlement tended to nourish the same trait in the American character; not coming into the civilized families of the earth by neighboring conquest or royal bargain and sale, but occupied peacefully often by the adventurous from every quarter of the old world, whether English, Spanish or French, Dutch or Danish. The beginnings in the United States thus contained people who were in this respect not the exponents of the whole, or even a majority, of either of those nations; but they were the boldest and most restless from all; and hence the embryo, the source of our eager locomotive propensities did not before exist entire, in the character of any one people on the old continent; but it was this disposition in all of them, extracted and concentrated, which has had its most perfect work here.

The subsequent additions to our population, from time to time, were chiefly possessed of a like spirit; and thus, one and all, they increased more and more yearly the common stock of enterprise and locomotion, collected here from every portion of Christendom. Indeed, in later days, and with a few, these may have been swollen still larger by a fondness in many to search for the marvellous, or a zeal in some to discover new minerals, plants and animals, or by a scientific enthusiasm in others, like that in Humboldt and De Tocqueville, to explore new institutions and new forms of social life.

All this has contributed to act and reäct, to nurse here more strongly a spirit of our own for roving and travel, animated forward by a thousand auxiliary impulses, and eager to penetrate, not only every nook of our own vast domain, but to unearth and throw open, like Stephens, the antiquities of both Asia and America; or, with others of our countrymen, to thread the Nile towards his hidden sources, after unfolding the mysteries and pictured treasures of the pyramids; or, like Ledyard, on a day's notice, to start for Russia, to examine all which was obscure in frozen Siberia, and find out, not only new articles of trade, but new passages for navigating the arctic circle.

The inclination among most of our population to try experiments, in all places and pursuits, for a livelihood, has also been much strengthened by the brilliant success which has attended not only many

adventurers hither from abroad, but myriads born among us, who have pushed their fortunes into every other land and sea known to civilized men, as well as into every portion of our own great common country. And though failures have been intermingled, such is the constitution of the enterprising mind, that if it seldom profits by shunning the rocks on which others were wrecked, but overlooks them, as those lost at sea tell but few tales to dishearten,—the fortunate, who escape, fill the temple of Neptune with votive offerings, and seem, to the young and ardent, countless in number and happy in their favored lot. In sober truth, however, the country, as a whole, has by this propensity been in some other respects amply indemnified for any occasional injury. Every talent has thus been finding more certainly its best theatre; every occupation, its best materials; every article of sale, its best market. So, the possessors of this trait of character, whether remaining abroad, or returning home, almost invariably improve themselves. They solve doubts, discover novelties, enlarge their views, and lay in some rich stores for future reflection and active use. Following out the divine injunction, they try "*to prove all things*, and hold fast to that which is good." The wanderer, like the bee, lights long only when the richest flowers open, and sends or brings back honey from every region; a specimen or description of every improvement found, whether in this or any remote quarter of the globe. He thus enables us to reap the harvest of what is good in all countries, without the tares; new plants, new grain, new animals, new tools, new machinery of any kind, new arts or arms, new inventions, or books, or principles, are all opened to our gaze the world over, and are likely to be adopted, if appearing to be more useful. In this way, not a single improvement can be made in agriculture, manufactures, or navigation, in legislation or science, indeed, in anything, either to strengthen or refine, but it is likely to become known to the explorers from our hardy soil, and its blessings soon diffused to the remotest portions of the Union. But mark the contrast. In other regions of the world, where this spirit of locomotion is suppressed or never indulged, where the traits of character are so different that the grandson and grandsire usually till the same spot in the same way, or delve in the same shop, with no change in tools, implements, or systems of cultivation, there the whole surface of society becomes dull as a stagnant pool, or the Dead Sea of Sodom. Old superstitions there still nail the horse-shoe over the door, to keep out witchcraft; the loom there, as in India, may still be sticks driven into the ground, or the cotton trodden into the sacks, rather than pressed by screws; the ox is harnessed by his horns or his tail; the grist carried to mill in one side of the bag, and a stone to balance it in the other; the canals have no locks; the roads are only bridle paths, as now over much of Spain; and, for want of facilities in transportation, the remains of old crops are destroyed, to make room for new ones; a raft is the only bridge and boat, a hurdle the only cart, and a hole in the roof the

only chimney. In fine, the enterprise and locomotion of our people have been so strong as not only to make us differ in all these respects from many other people, but to excite, draw forth and improve more our natural advantages; originate, no less than adopt, much that is useful, and thus add something to the common stock of civilization; not living in vain for others, any more than ourselves; becoming in turn inventors and world-finders, in the arts, if not in geography, and making our character and institutions reäct and be felt in their genial influences throughout the whole brotherhood of mankind.

What may by some be considered another ramification of this trait in the character of our people, is inquisitiveness, or curiosity. They seem disposed to pry into all mysteries, and try all kinds of business or pleasure, as well as form acquaintances with every species of mankind and every region of country. Nor is the inquisitiveness of the Americans, and especially of the Yankee, (so proverbial the world over,) a mere youthful impulse. It ends not till life ends, or the means of employing it. Beginning with marvels of museums and caravans and menageries, it increases to sight-seeing of all kinds, even to cataracts and mountains, and does much to extend researches into science no less than geography, and into the caverns of the ocean, the depths of mines, and the remote mysteries of the solar system; the secrets of all substances, as well as the history and manners of every people. But, amidst many benefits, some evils are usually produced by this propensity. Unsatiated and ardent, this desire of the American to see all things, makes him the most rapid, and at times the most superficial of travellers. He hurries forward among the foremost of that itinerant race; now vexing every sea and continent, whether in search of the picturesque, or the marvellous, or the useful; and he is thus often led into positions and companies as bad as honest Bunyan's pilgrims'; and his course in this respect would excite more ridicule than praise, if he did not generally extract something good even from poisonous flowers, and, by his observing and practical turn of mind, live in a constant course of training and education for the real duties of life.

Something of these inquiring and enterprising propensities spring, without doubt, from the greater liberty which exists here in all things. Such a state of society and government both excites and facilitates free inquiries, and free and frequent intercourse. A fondness for this liberty is another of the peculiar traits of American character. It is not the liberty of nature merely that we covet or enjoy, and of which I would speak, if having time; not the freedom from restraint of the wild buffalo or fleet horse of the prairie; or the untamed Indian, to roam over hill and dale and lake and landscape unrestrained, however much in appearance this may appear to some like Eden, or a Paradise regained. But it is liberty, enlightened and *protected;* liberty, purified by morals, elevating in its aims; liberty, which seeks to refine and ennoble the spirit, and make that free from ignorance, superstition and bigotry, as well as the body emancipated from chains; in short, the liberty

which leads to just no less than heroic deeds, and is quite as mindful of its duties as its rights, and of the rights of others as its own. Without such liberty, our people would value not

> "the land of the cypress and vine,
> Where the flowers ever blossom, the heavens ever shine;
> Where the maidens are soft as the roses they twine,
> And all, save the spirit of man, is divine."

But I am obliged to pass over a proper discussion of this strong attachment to liberty, and several other traits in our national character, such as the wider diffusion of education over the whole country, the existence of a far superior tone of morals, and greater practical talent in business of all kinds, than usually exist elsewhere.

Considering, however, that this year is the centennial anniversary of one of the most brilliant victories of our people, in the capture of Louisburg, it may be thought peculiarly proper to devote a few moments to some considerations connected with the existence of the characteristic trait of a military spirit among most of our people. Such a spirit would be natural, when we look to the descent of most of them from that race in Europe always so devoted to war. Remember, also, that we are a republic, which in all ages has been the form of government that encourages boldness in defence of national honor, by opening paths of fame and power to the lowest citizen who is ready to peril his life for the common cause. Beside all this, our country has practically been schooled in arms from infancy. There was a savage enemy to contend with on the moment of the first landing of our fathers. A foe met them on the beach, watched them in the forest, ambushed them in the field, broke the midnight slumbers of their households with the war-whoop and torch, whether at Portsmouth, or Concord, or Jamestown, or Pittsburg; ready at all times to avenge fancied or real wrongs, and cross out with their tomahawks, as they did on the body of the intrepid Waldron, at Dover, all arrearages of accounts in favor of the pale face against the red man. Added to these, we were from time to time dragged into the whirlpool of most of the European wars which preceded our independence; and the daring spirit of the colonies led them to embark in all the military enterprises planned for this continent, and even to originate some of their own accord. The more southern colonies bled as freely under Braddock at Fort Pitt, as the northern ones did at Crown Point, or at Quebec, under Wolfe. Indeed, the latter were always ready to fight, and even be *taxed*, when in danger either from the French or Indians; the French being enemies, almost by inheritance, as well as border position in Canada, and national rivalship and antagonistic views in religion; and the Indians being enemies, inflamed by jealousies or sinister suspicions, with some real wrongs, and from the cradle to the grave wreaking treasured vengeance, with true savage ferocity, whenever opportunities offered.

One of the illustrations of the vigor of this military propensity among

us before the Revolution, and which was thus helped to be formed and inflamed, so as to secure victory in that great struggle a generation after, appeared in the capture of Louisburg. It took place on the 17th of June, 1745,—a century ago within a few days. And what a century! How full of still greater events in the life of all the colonists, as well as those of New England! How big with the fate of Europe, and even Asia, no less than America! What revolutions in dynasties! What improvements in government! What inventions in the arts! What progress in commerce and civilization the world over, beyond any precedent in the whole tide of time!

Though Massachusetts took the lead in that expedition, yet New Hampshire poured out liberally, as has been her course since in every perilous crisis, both her blood and money; and her citizens planned and executed some of the most chivalrous feats connected with it, if Vaughan, the son of her Lieutenant Governor, did not, as many suppose, originate the whole affair. The commander of all the New England troops now sleeps in his princely tomb near the mouth of the noble river which forms our eastern border; and some of his descendants still linger near, to embalm his virtues and recall to our memory his toils and glories in the cause of his countrymen. The titles conferred on Sir William Pepperell and others, for the victory on that occasion, added new fuel to the military flame among us, being the first instance of so animating a reward to an American for services in the field. What makes that expedition more full of evidence as to our military spirit than most others of so early a date, is, that it was conceived in New, rather than Old England; the troops were raised here, rather than abroad; the officers selected here; the sinews of war, — the money,—at first contributed here; and the consequent impulses from it to increase that spirit and push onward our enterprise, self-confidence and progress, were all American rather than British, and justly awakened the first jealousies at home of colonial power, and led to predictions at the time foreshadowing the independence which was consummated in only a third of a century after. Some of the other circumstances of the expedition develop most strikingly how deep-seated are our capabilities and fitness for arms. The troops were militia, virtually; men fresh from the plough, and the workshop, and harpoon, and the lumberman's camp, rather than vagabonds from all nations; and, in short, the plan of operations, as described by Belknap, "was drawn by a lawyer, to be executed by a merchant, at the head of a body of husbandmen and mechanics." The danger braved, also, was not to be merely that of flood and field in the attack, but anticipated retaliation on their homes and firesides, menaced as it was afterwards by France, even to "the destruction of the sea-coast from Nova Scotia to Georgia." Without dwelling on further details in this affair, illustrating our subject, it may be mentioned, as indicative of much military prudence, that the secrecy attending the preliminary measures of the legislative assemblies, to appropriate funds and raise troops, as well as the

movement of the latter, was so great, that what had been adopted with closed doors became first inadvertently divulged by a member, in the ardor of prayer to God for favor to the enterprise; and that the sailing of the vessels was unknown in the Island of Cape Breton till the regiment from New Hampshire, impatient for the attack, reached the neighborhood, some days before any other troops arrived. They went under the immediate command of Col. Moore, who was a skilful sailor as well as soldier, and who at once volunteered to take all his men on board the ships of war, to help in an attack by water, if that mode was preferred. But Vaughan, from Portsmouth, ardent no less than skilful, seems to have been the soul of the enterprise, whether in the field or in council, at home or abroad; and was fearless of danger as Charles the Twelfth, or Putnam. He entered the first fort taken from the enemy, and wrote thence to the commander, "that, by the grace of God and the courage of thirteen men, I entered the royal battery about nine o'clock, and am waiting for a reinforcement and a flag." This allusion to *the grace of God* meant more than the usual phraseology of the age, as religious zeal had so far been mingled with other excitements to the expedition, that Whitfield himself, the eloquent apostle of Methodism, furnished the motto for their flag. It was, "*Nil desperandum, Christo duce;*" and one of the chaplains of the regiments, with all the burning zeal of a John Knox, carried a hatchet on his shoulder, to destroy any images which might be found in the French churches.

If any doubts still remain whether a fondness for glory in arms in a just cause always animated and still animates Americans, as belonging to the race of the Henrys and Cromwells and Marlboroughs and Wellingtons, and as nurtured amidst onslaughts and ambuscades from the King Philips and Tecumsehs of the New World, and as self-defenders of their own equal rights in all emergencies, at the cannon's mouth, as well as the polls,— let the sceptic look, a few years after the capture of Louisburg, to the rally at Saratoga and King's Mountain, and the bloody decks of the Bonne Richard, and the thousand other deathly rencounters since, under our McNiels and Ripleys and Jacksons in the tented field, no less than our Truxtons and Prebles and Decaturs and Perrys on the mountain wave, whenever and wherever duty called. It was not at the Revolution so much a regular training and profession which made the American a soldier, as the military spirit lurking in the breasts and tastes and habits of our people, ready to burst forth whenever occasion demanded. Oppression was the sword that detected and inflamed the youthful Achilles, though plying the distaff among maidens. Sullivan abandoned Coke and wrestling with lumbermen on Oyster river, to foil armed myrmidons from Europe; Dearborn and Brooks flung aside the lancet for the sword; Pierce left his plough in the furrow; Stark, his beaver traps; Green, his anvil; Putnam, his wolf hunts; Whipple, his harpoon and lines; Washington, his surveyor's compass and chain, and the ardent Macclintock, his pulpit, to

exhort the soldiery to battle at Bunker Hill; coming, in truth, from all occupations and regions, "*as the winds come, when forests are rended.*" The dragon's teeth of oppression, which had been sowed by England, started up armed men everywhere; men accustomed to the rifle from the cradle; restrained by no game laws from a free chase; claiming a natural, afterwards a constitutional right to keep and bear arms; drilled as militia to the smell of gunpowder; able, in practice no less than theory, to defend their homes as their castles, and prosecute bloody strifes in behalf of the mother country, till they thus learned how to protect themselves even against her wrongs. They transmitted to their children the same invincible resolution to uphold the rights and the flag of our country, whether at home, as at New Orleans, or on the other side of the globe, as at Sumatra; and always to wipe out any attempted and unatoned stain on our national honor with the blood of the offender. You may render a display of this spirit not often necessary; and such is the true policy of humanity and Christianity, by means of international prudence, justice, forbearance, and, at the same time, firmness; and, by God's help, may such be the result henceforth, forever. But to order it to cease, you might as well command our whole history to be expunged; the warm, heroic blood in our veins to become ice-water, and our seamen navigate only the placid river, instead of braving, as they will, the tempests and breakers of the ocean.

Another evidence of this military propensity, is the liberality with which the nation has ever encouraged all improvements in fire-arms, cannon, powder, tactics, fortifications, steam batteries,— all naval securities,— and the equipment, if not discipline, of that great arm of national defence, the militia. Whatever differences may exist as to the utility of frequent trainings, all must admit that a well organized and well armed militia is the safest, if not cheapest, defence of nations. It is also a constant bulwark against oppression; and one of the best benefits which has resulted from the fondness for military affairs among our people, and one of the best evidences of its existence, has been the public attention hitherto bestowed on this subject in the United States, and the manly tone it has imparted to the young, and the confidence to the middle aged, of their ability to protect their liberties, laws and public order, when the civil power is too weak, or when assailed by foreign aggression. Our trainings and musters have been holidays. Females and males resorted to them after the Revolution, as some of the most festive anniversaries. This seemed to make us, not merely an armed republic; not a people aspiring to aggrandizement by violence or rapine; but a government of the people, capable of being defended, and cheerfully, by the people themselves; rejoicing in peace and the peaceful pursuits of commerce, agriculture and manufactures, yet ready for self-defence and self-protection, without invoking the standing armies of Napoleons and Cromwells, or the legions of Cæsars and the brigands of Santa Annas; feeling much stronger in the

general intelligence, moral firmness, military habits, and armed liberties of the people at large, than in any battlements or hired mercenaries. Nor is this position dangerous to the rights of others more than ourselves. "The queen's arms,"— the rifle and the fowling-piece, — have adorned every dwelling among the yeomanry; but they have been as a sort of household gods,— for defence rather than aggression; as a memento to demagogues and usurpers of their probable destruction, than as a promise or hope of assistance either to ambition or tyranny. It is defensive rather than aggressive, and has never tempted us to seize lawlessly on a foot of land for the enlargement of our public domain. And whoever charges us, as a nation, with ambition to extend our empire by wrong, under the dominion of such a military feeling as this, forgets the many checks on it in the moral and religious and educated sense of justice pervading our people; overlooks its other guards here, and does wrong to our whole history, rather than acting as the honest chronicler. On the contrary, when we have been forced to make military lodgments on the other side of the globe, as at Quallah Battoo, to punish piracy, or to occupy the Falkland Islands, to break up there the violators of our flag, or have had possessions offered to us in the isles of the Pacific or Mediterranean, and even whole provinces in Africa, our policy has been to remain entirely within peaceful limits; and, even within those limits, to grasp at nothing unnecessary for national security, or connected with any dream of foreign aggrandizement. But, from want of time, no more of this now, nor anything on the other prominent traits in our character, before alluded to, as connected with liberty, education, morality, and practical talents for business.

In closing, should any one ask, What have been the general consequences of the whole? I would observe, that, after an impartial scrutiny, the results will be found nearly these: There have been imparted to our national character, in everything undertaken, an earnestness of purpose, a promptitude, an energy, a vigilance; and, above all, an integrity in action as well as feeling, most auspicious to our future advancement. What such a people, in society or government, resolve to do, they do with their whole might; and without dwelling on some imperfections and exceptions and excesses, arising at times from such a character, its qualities are always efficient in correcting these, and in promoting more rapidly everything useful. The spirit of such a people seems destined to spread wider, till it penetrates the whole western continent; and though we may look into the mist of coming time and fancy this spirit headed, at no very distant period, in its excursions, by some great captain of the age, it will still be, not he, but the spirit, the character of our population, which must ensure victory over the other races around us; ensure it, too, all must hope, rather by mind, hardier virtues, superior skill in the arts, and higher civilization, than by arms. Thus, in time, may we not elevate all between us and the Pacific? as the Greeks, after reaching the heart of

Asia, under the son of Philip, aided for ages, in peace no less than war, by their higher qualities, to renovate in some degree the effeminate millions around them.

In fine, if the consequences thus far of such a character have been, as many suppose, an increase of the importance of individual man; a lower appreciation of mere authority; a closer attention to the welfare of the many, in legislation, rather than a few; a constant growth in arts, intelligence, morals, and popular power, and a greater ability thus obtained daily to overcome those dangers from licentiousness and ignorance to which a system like ours is exposed; — I say, if these have been some of the consequences, their benefits will not probably be confined to our own age or our own continent. A new generation in many respects treads the stage of most of the civilized world; its means are greater, its defences stronger, its mission higher and holier. To be sure, it is not without perils; but so far as regards ourselves, if true to the hallowed trust devolved on us from our fathers; true to our own character, as free, enlightened and Christian; true to the great cause of liberal principles and progress throughout the world; as true, hereafter, as our whole history shows us to have been heretofore,— the coming time will be full of smiles to youth and those of middle life, while those of us descending into the vale of years will have no cause either to fear or despair.

TRAITS OF AMERICAN CHARACTER.*

On some other occasions like this, I have discussed a few traits in American character,† Those heretofore considered by me have been, enterprise and a love of locomotion, our military propensities and ardent curiosity,— leaving the attachment to liberty which distinguishes us, our more general education, higher tone of morality, and our great practical genius, to engross a little attention this evening.

The American people have always been characterized by a fearless spirit of liberty. It is so far from the licentiousness which too often predominated in ancient republics, or the half-way measures as to popular rights and constitutional checks and representative systems which distinguish some modern monarchies, that it unites order and justice with the entire equality of man in political privileges, with his entire competency to self-government when properly educated, with the entire freedom of conscience which belongs to him unalienably, and with entire free-will of action in the pursuit of subsistence and happiness, whenever not conflicting with the prior rights of others.

Some of this spirit came in the Mayflower, with the Puritans, at the East,— some came with the persecuted Huguenots, at the South,— some with William Penn, to the banks of the Delaware. But the additions and improvements of one or two centuries here, with the agitations of later years on like topics by many of the master minds abroad, have shed floods of light over the true character of that liberty which, in a more secure and improved form, after the struggles of a century and a half, our fathers aimed to establish by the Revolution. By their institutions and habits since, they have perhaps succeeded in making it all which the considerate had a right to hope for, without cramping its breathings into disease or weakness; and if we anticipate still further progress in it, as is feasible, it must be the work of longer time on the masses, chiefly through the more earnest agency of letters and religion. Those who braved new oceans, the wilderness and the savage, in their devoted attachment to the great principles of *Magna Charta* and the Bill of Rights, were not likely to halt at any imaginary dangers, nor would they be content with any low standard, but advance steadily and firmly to the highest degree of freedom consistent with order and public security. How well they were able to distinguish and preserve it from licentiousness, our whole history for two

* An address delivered in Massachusetts and New Hampshire, 1850.

† See p. 191.

hundred years is a living memorial. So, their success in preventing it from degenerating into rapine may be seen signally in the unbolted and unbarred doors in the interior of most of the Union, and in the security of travel here, compared with such countries as Mexico and Spain, where the great thoroughfares are scenes of weekly robberies. If we have occasional outbreaks in our large cities, evincing a mobbish spirit, they are usually political or sectarian in their origin, and seldom look to plunder, and never to bloody revolution.

Liberty here also is not partial in her influence, but a pervading principle, that electrifies everything. It is liberty of conscience and of occupation in social life as well as of government. It is not only liberty of *thought* concerning religion or public affairs, which is contended for, and which it is difficult in any country, however desired by tyranny, to overawe or suppress,— but it is liberty of speech and the press, the unlicensed printing (untrammelled by censorships) such as was advocated by that sturdy republican, Milton. It submits to no restraints but those which should control all conduct in civil life,— the moral impropriety of doing wrong, and the legal liability to atone for it after committed. It is likewise liberty of action in all things not conflicting with the previous rights of others,— running through every ramification of society, secular or ecclesiastical, public or private. This helps to produce many of our numerous sects, which, however to be deprecated in some views, tend by their very multiplicity to beget watchfulness over each other, and thus not only to prevent much error, but excite rivalry for excellence in creeds, character, teachers, and places of public worship. So of our numerous parties in politics, with all their fragments and all their shades of opinion — accompanied by some evils — yet still each is eager to enforce the right, and each vigilant to correct the frailties at least of his neighbor.

Looking to public peace and conformity to law as parts of our system, this devotion to liberty makes our people rely less on force, or a large police — a standing army — for security, than on reason and an intelligent sense of duty. Indeed, severe measures, and barbarous violence, and revengeful penalties, are, from like causes, in all cases growing more into disuse. If persuasion and argument, education, morals, just government, and equal laws, cannot satisfy the majority of mankind, and reconcile them to order and public security, the hypocritical obedience, or the repose obtained only by brute force, is hardly worth their cost.

The Americans are a people, likewise, who, by such a training, early and late, have been brought to wish for public liberty protected by charters and constitutions, rather than by cannon, or dungeons, or bastiles, or inquisitions. Much less do they seek the liberty of most of Europe, derived legitimately, as they reason, only from grants and the grace of kings, and, as a "happy or unhappy accident" mounts the throne, is accompanied by repose or iron oppression. They look, also, to firmness and steadfastness in freedom, rather than seeking frequent

outbreaks or passionate revulsions. All on the surface here, except on occasions "few and far between," is, with our population, calm, if not icy; and if it is not without heat beneath, it is heat secured in strong boilers, of duty and love of order, and is well guarded against collapses or explosions. It is not a matter of surprise, that this tendency to indulge in the largest liberty, reconcilable with public order and public security, should at first make many explosions, when we do explode, seem worse than they really turn out to be, afterwards,—many attempts at change look exaggerated and daring,—and the country, in one place or another, appear, to foreigners, through the magnifying glasses of travellers and an active press, as often on the brink of revolutions or anarchy. But most of these terrifying thunder-clouds pass off harmlessly, and leave greater fertility and health and verdure in their wake. The frequent ballot-box is the lightning-rod which conducts off, without damage, all excess of political electricity. The inherent love of justice, the strong moral training, the intelligence that can appreciate the value of order, the deep and wide interest which all classes feel in a government and its success, as well as good character, in which they are joint stock proprietors, and which they helped to create, and must help to sustain, if they would avoid despotism or chaos,—these are anchors of safety in every storm. They hold the ship of state to her moorings, and almost invariably secure the eventual triumph of the constitution and the laws.

Many predicted, long ago, that so much liberty in the United States would lead to constant and bloody revolutions. But not a single event of that character has occurred in a single State or the General Government, since the constitution was adopted; while, among other races than the Saxon stock, under a different moral training and education of the many,—even in the boasted stability of monarchies, such as France, Spain and Portugal,—the revolutions have in the same period outstripped in number those by the bow-string among the Deys of Algiers or the Grand Sultans; and in Spain, especially, they sometimes reach two or three by the arrival of a new steamer. This resembles the theatrical revolutions in an evening's tragedy, enacted in Chestnut-street or the Bowery, so much, that if the public suffered from these no worse than from the rapid succession of "theatrical tyrants," the frequency of these changes in real life would excite quite as much ridicule as tears. The military despotisms of the South American and Mexican republics are quite adepts in the same kind of revolutions; their capitals, during what they call peace, being little better than camps, and the administration of their chiefs, like Bolivar's in Peru, usually, when at peace abroad, was, at home, regarded by him as a mere campaign.

Thank God, we have repudiated all such scenes of domestic violence from the start, and have insisted on the joint reign of liberty and law. To be sure, some spirits, unquiet, misled, turbulent, seditious, have appeared among us, as in all governments, even the oldest and strong-

est; but their forcible outbreaks have been few and feeble here, compared with other places.

It would be folly, however, to pretend that this enthusiasm for liberty, when so predominant a trait in our character, was not in danger, sometimes, of leading a few into excesses, though elevating and ennobling almost everything around us. Under the impulses of faction or demagogues, it occasionally rushes to the brink of violence, if not overstepping the precipice. Ambition and interest at other times goad it onward, so as to endanger its proper restraints and regulators, in the sound morals, equal privileges, and useful education. diffused so widely among us. More frequently, also, it sows tares in the intercourse of society, and produces some want of candor towards rival parties in politics and religion. Nor does it always leave our opinions of rival nations exempt from some illiberality, since their aristocratic forms of government, however unsuitable here, make us undervalue them more than may be just, considering the incompetency of most of their people for self-government. Thus, in the neighborhood of London, where intelligence, wealth, talent and philanthropy so abound, and are so zealous to ameliorate the condition of man *elsewhere*, half the population are unable to read at all,—and only seventeen out of twenty-seven throughout the kingdom of Great Britain. It is manifest that such an uneducated portion of a community, if at once allowed a larger liberty, could no more appreciate properly the qualifications of others to rule, than possess them themselves. It is manly for us to be candid about ourselves, also, at the same time that we exact justice from others, and not claim, because liberty is a great blessing, that no faults whatever can exist in company with it,—like the partisan lady, who, from her attachment to liberty, maintained that John Wilkes,—its ugly champion, and notoriously cross-eyed,—if he squinted, did so no more than a gentleman ought to. Nor like another lady, who, from opposition to liberty, said of the same champion, whose portrait hung before her on almost every sign in the streets of London, that he hung everywhere but where he ought to. Indeed, to this day, in the enlightened city of Edinburgh, it is said that Wilkes yearly is as regularly burned in effigy as the Pope himself. We repel, however, the stigma, from any source, that there is anything in the character of the liberty prevailing among us which makes our country, as a whole, wish to be unjust towards other forms of government, used for a different kind of people, much less to favor a mobbish spirit, or a repudiating policy as to contracts and vested rights. But, being in some respects more exposed to such influences, and, at the same moment, being surrounded with some stronger guards against them, it surely befits us, honestly and faithfully, in all ways and at all times, to watch, sustain and multiply those guards, and thus more effectually shield our reputations from such undeserved assaults, and defeat the enemies of free government in their efforts to discredit

republican institutions, and thus render them less attractive, either for adoption abroad or emigration to here.

How deeply the energies of such a people are mingled and flow on with their liberties, can be seen at a glance of our history whenever these last are supposed to be invaded. Thus, at the Revolution, though proud of the British empire, of which they formed so large a limb, and wedded to it by a thousand strong ties, yet few, beyond the mere office-holders of that day, could be bribed or terrified into any compromise of their great birthright of representation wherever there was taxation. Franklin, setting types, or flying his kite, was still too elevated in devotion to liberty for allowing the highest British honors to make him waver. John Adams, though arguing causes in a county court, was, in spirit and patriotism, above them all. So was John Langdon in his counting-house, and Roger Sherman on his work-bench, and Patrick Henry behind his counter, as much above all such blandishments as Hancock, or Rutledge, and the Pinckneys, in the saloons of fashion, or Weatherspoon, in the halls of a university. Such a people, also, are never content with milk-and-water measures. They may rest at some half-way house on their journey, in order to recruit for another effort, but they will never regard it as the end of their labors. It is for this reason that they demand the substance and fruits of liberty, not merely the forms or names, the mere husk or the bark. Defeats, delays, disappointments through false friends or untoward combinations, do not make them despair, but impart, often, renovated vigor and exertion. Thus the good seed, once sown, will sooner or later be made to vegetate,— and, if well cultivated, must, in time, whatever slight mildews happen, bring forth abundantly ;—

> "For freedom's battle, once begun,
> Bequeathed from bleeding sire to son,
> Though often lost, is *ever* won."

It may be cloven down in Ireland, but regains its power, in another hemisphere, on the Hudson or Ohio ; and if driven from the banks of the Loire, it is only to revive on the Santee ; and when crushed for a time by the Lauds, and Straffords, and Jeffries of other ages, on the Thames, it will reäppear on the Charles river and the Piscataqua, with renovated vigor and triumphant energies, for resistance to tyranny.

Well may the New World have been reserved for so many centuries, —shut out from the corruptions and the ravages of the Old,—reserved for a new theatre for new experiments in government, new discoveries in science, new principles of popular liberty, to act on commerce and civilization, and push them higher, further and faster, than had ever been witnessed in the palmiest days of the Eastern hemisphere ; and hence, well might Bishop Berkeley prophetically say, at least in respect to liberty,—

> "Time's noblest offspring is its last."

Foreigners are at times apt to conjecture that the spirit of liberty burns brightest in the West, amid the wilderness of a forest life, or in places remote from the centre of government; when, in truth, in no region are people more sensitive to encroachments on personal freedom, in any form or disguise, than in villages or cities, and in the older and more frosty East, or amid those domestic institutions at the South, which, depressing *one* race, compel the other, as Burke justly observed, near a century ago, to be more vigilant and jealous, in order to sustain the freedom they cannot but highly value, in immediate contrast with the degradation accompanying the want of it. How very different the character of the liberty we love is from that in most of Europe, may be seen by its results. Thus, the revival of literature there enlightened the few, but, in most of her governments, has little elevated the masses. They remain much as they were under Peter the Hermit, in his crusades to the Holy Land. And how sincerely does the autocrat of Russia still avow that he never will consent to be tied up at all by troublesome forms like constitutions; while the doctrine of Prince Metternich, like that of the Grand Turk, is, never to yield an inch to popular demands, without requiring in return greater security or tribute, to sustain kingly authority in controlling the whole, or unless concessions are necessary to escape imminent danger of the scaffold, the guillotine, or the bow-string.*

Here, also, liberty has always run in the channel of civil freedom and equality, quite as much as political. Every species of feudal servitude has been abolished, as well as the trappings of monarchy. Estates have been divided rather than entailed, political power in free suffrage opened to the masses, and incentives the strongest thus presented to industry and virtue and intelligence throughout the whole social family, as the surest means of distinction, no less than wealth; and this feature of liberty among us, coupled with the hatred of all monopolies in anything, is one of the most characteristic among the American population. They may at times be deceived and misled as to what is unequal or exclusive in legislation; but, when once fully realizing such injustice, the love of equal liberty and equal privileges will prostrate every barrier, however long or time-honored, and however seductive its name or origin.

A remarkable development of the strong devotion of this principle of liberty among a people so attached to gain and commerce, is the gradual progress made over our whole Union in the abolition of imprisonment for debt.

In short, it is not the liberty of the wild horse of the prairies or the untamed Indian of the forest, not the liberty of the bandit of the desert or the pirate upon the wild ocean, that we covet,—but liberty united with law, liberty sustained by law, liberty regulated by law.

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* Hence the Hungarian insurrection since, and Vienna in a state of siege, and Metternich an exile.

It is the great liberty of equal rights under equal constitutions, the inestimable liberty of self-government, the heaven-descended liberty of conscience to worship God in the manner God may inspire every immortal soul.

With such liberty, we envy not the pomp of monarchies, or the circean climates within the tropics, —

> "the land of the flower and the vine,
> Where the maidens are soft as the roses they twine,
> And all save the *spirit* of man is divine."

For it is that spirit, as elevated by true liberty, which alone makes man so superior to the other beings around him, and fit to rule them here, and aspire to nobler destinies for himself hereafter.

It might be considered unjust to the subject of my discourse not to notice next, as a prominent peculiarity in the American character, one of the great foundation stones of liberty. It is, a wider diffusion of education among the masses of our population. It is not that what are called the higher classes in all civilized countries may not generally be well informed. This is necessary, to enable them long to continue *higher*, and thus rule the rest. But, for a like reason, those who rule here, being the masses, should also be enlightened, and cannot retain their power permanently without it; and hence, for two centuries, the far-seeing fathers of the republic have constantly aimed, by wider education no less than wider morals, to qualify our people at large for self-government. In this way, through books, the press, a system of free schools, academies and colleges, an amount of light has been let in upon all,— floods of it, seldom, if ever, equalled elsewhere.

These facilities are constantly increasing and spreading wider. They derive support not only from voluntary liberality, but taxation and public donations of both lands and money. New Hampshire raises yearly, by general taxation, for free schools, near $150,000. The standard of instruction is also growing higher, and hence, not only *more* are taught, but taught *better*.

Taking the Union as a whole, only one to twenty-five among our white population is unable to read and write; and in New Hampshire alone, for instance, only one in three hundred,— a condition twelve-fold superior to the average, and exceeded by no State in the Union, except Connecticut.

How admirably does this diffusion of elemental education, as a trait in the American character, contrast with the state of things in some of the most enlightened governments of Europe, and demonstrate the national peculiarity here, when, but a few years ago, it was computed that only four hundred and forty-nine in five hundred in Ireland can read and write, and only five in six in all England, and two in three in France, instead of twenty-four in twenty-five, as in the United States, and two hundred and ninety-nine in three hundred, as in New Hampshire.

The higher branches of instruction are also extended in this country through more than one hundred and eighty colleges and three thousand three hundred academies, beside the half million of primary schools, public and private, in many of which all the rudiments of an English education, in addition to reading and writing, are well taught. In the former, if instruction does not range so far and high as in Oxford or Gottingen, yet it furnishes more, probably, of what is suited for immediate use in practical life, beside an insight into most of the classics and of the abstruse sciences. The college students constitute near one per cent. of the whole who attend these establishments; and those in academies and grammar schools are quite eight per cent. The whole number of scholars, in all places of instruction, is over one in six of our white population; thus exceeding much the ratio of one to eight or nine, which is considered the high standard in a well-educated country, and surpasses even Prussia, so much celebrated for her one to seven. This trait in our character is, in this way, by official statistical returns, demonstrated in a striking manner; and its yearly increase gives a strong guaranty, that the rising generation will be enabled both to understand better their rights and duties, and administer well and defend well their institutions and laws. It thus becomes, next to morality, the greatest security for the preservation of our republican institutions; because it instructs all that there are duties as well as rights recognized in the freest governments, and that laws and order are to be maintained as well as liberty. It is the want of this general education among the people, that has made most of the revolutions in Europe and South America so unstable, so full of bitter fruits, and has led the intelligent often to dread them there, quite as much as bigotry and despotism allied, deeming tranquillity and safety, with some rapacity in a few, better than anarchy and spoils by the many. Where neither morals nor education exist to guide reforms, they become mere servile insurrections, worse than the unbridled revolt of slaves, if they are, as usual, instigated by the corruption of demagogues and usurpers. But entrust power to hands where information and principles exist to use it, whether they come from the workshop and farm, or the counting-house, the vessel's deck, or the forum, and new vigor is yearly infused into the administration of public affairs; disorder is discountenanced; the corruptions of wealth and fashion counteracted, and our national character, as well as national institutions, are preserved unsullied.

I forbear to say more at this time on this fruitful theme, as a full discussion of it would fill volumes.

Another trait in American character, and no less essential, in order to preserve our liberties, than general education, is, the prevalence of a higher tone of morals among us than exists in most other communities. It is not that the whole twenty millions of our population are real, or even professing, Christians, and act up to the high standard in morals which alone corresponds with such a position; but that the spirit of

Christianity pervades, and, in some degree, leavens the whole mass, and is a sort of electric chain through which the whole is animated and ameliorated. The tree of morality always strikes its roots deeper and stronger in the soil of religion. Many of the original settlements here, no less than some of the emigrations since, originated in an unconquerable desire to worship God in freedom and purity, as conscience dictated, whether in the Protestant or Catholic, whether under the Puritans at Plymouth rock, "chanting the anthem of the free," or among the Quakers of Pennsylvania, or the Jesuits at St. Louis and New Orleans. In all free governments, public sentiment is usually more alive to everything which interests each individual when regarded as an immortal, accountable, self-controlling being; and each is justly more vigilant to guard from error the conduct of his fellows, when partners in public affairs as well as united in social life. In a community like ours, also, where, as just shown, education is more widely diffused, each becomes better able to comprehend the force of moral obligation, and is more inclined to appreciate duly its paramount importance to the welfare and security both of the individual and the whole. In this way the religious feeling operates, not, as often with the unlettered Indian of the west, or the ignorant peasant of Europe, mostly through forms, or as a branch of government through some unholy alliance between church and state,— but as a conscientious conviction of the mind pervading the whole man, with all his habits, thoughts and deeds, and thus tending to soften the heart, civilize the manners, and reform the whole life.

The industry, thrift, and ambition of our people to rise in the world, is another guard against immorality, as it is a great preventive of idleness. How much idleness is the very parent of vice, may be seen in Burton's quaint remark that "the idle man's brain is the devil's own workshop." This precludes, also, waste and extravagance, those pioneers to much profligacy and crime; and in this way some of our propensities, even for wealth, which, if carried to excess, are in themselves censurable, become safeguards against worse calamities, and are checked in their tendency to degenerate into corruption.

Nothing, perhaps, has occurred in the last half century which has served more to strengthen and uphold this general trait in our character, of a tone of sounder morals, than the increase of temperance. It has diminished drunkenness, the inlet, if not source, of most other vices. It has forced the wealthier classes thus to exhibit to others a purer example; it has saved means for higher literary and moral improvement, and been the cause of great gain in public economy throughout. In short, the source of much pauperism has in this way been lessened, with all its debasing tendencies; the seaman and sailor rescued from their worst enemies, and the criminal calendar robbed, in many places, of half its victims.

Nor let it be said, that the peculiarity of better morals in our character is not national, because the standard may not have been always

equally high in all portions of the Union; not the same, for instance, where Oglethorpe and Locke took a deep interest in American progress, and the latter wrote constitutions for us; or where Sir Walter Raleigh explored for gold, or the chivalrous Smith shunned royal alliances, or where Rogers Clark fought with the brown Indian for empire, and Daniel Boone braved the dangers of the chase, or where William Penn bought lands so much more honestly than Dido of old, or where Hudson pierced the Highlands, or Roger Williams, or Winthrop and Bradford, or Hilton and Mason, each pursued what they deemed liberty of conscience, freedom to worship God, free fisheries, and free trade, with fearless intrepidity. If differing in these places in some degree, at first, their early successors soon became more assimilated, and a kindred tone in morals, as in other matters, has been increasing since from numerous amalgamating causes, weaving us all into one mingled web, for weal or woe. The united influence of like position in a new world; of like dependence in government, for a time, on the powerful sovereignty at home; of like exposure to dangers and trials here; of like legislation; of being forced by like oppressions into a common revolution and common independence and common union; enjoying a common literature and religion, as well as a free and uncontrollable intercourse with each other, increased so wonderfully by the railroad and steam, and kindly interlaced by mutual intermarriages, opinions, and, in some degree, systems of education;—the united influence of all these has gradually blended all the parts into a greater uniformity, and extended quite as strongly to morals as to politics. The religious feeling having, at first, been deeper also, in this country, than in most other places; wider, no less than deeper and better informed than elsewhere, it has colored the American character stronger than is usual with its moral hues. Though the fathers of some of our earliest settlements may, in formal observances, have been more scrupulous than their descendants, and the persecutions they were called to endure may have rendered their martyr zeal and self-devotion more conspicuous, yet virtue and integrity have abided through every succeeding generation; they still live, and, thanks to a benignant Providence, bid fair long to be quite as pervading as then among the masses of our people, and to characterize them as strikingly among the different nations of the globe. Assuredly, we have now more devotional books, more liberty of conscience, more churches and teachers, more avenues of every kind to greater light; and if some of these are not superior in quality to what preceded them, they evince an increased and increasing taste for larger quantities and useful *progress* in matters of this character. The infinite variety of sects deprives every one of excuse for inattention because no fit creed nor associates can be found to commune with, and the equal liberty of conscience everywhere prevailing, removes all apology for hypocrisy or lukewarmness. A singleness, no less than boldness, of heart is thus nourished, which is uncommon elsewhere, and tends to promote purity of conduct, as well

as belief, and engross, with moral and religious reflections, more of the time and faculties and passions which might otherwise be devoted to ambition and worldly vanities, and which thus find ampler gratification in more frequent communion with that unseen Power, so much loftier than anything visible, so much higher than the highest below, and so much greater than the greatest.

Considerations like these, pervading, as they do here, the humblest cottage in the Alleghanies or prairies of the West, no less than the costly palace of our busiest marts of commerce, elevate generally the estimate placed on moral obligations. Open infidelity has likewise become almost extinct among us. Moral and religious topics are more fashionable with all classes. The developments of geology and natural history inspire more and more every inquiring mind with the omnipresence and power of Deity; a general knowledge of these sciences is far more common than once, and a moral responsibility is felt stronger from their great lessons. An almighty wisdom is seen oftener in the flower, worshipped deeper in the beautiful forms and hues of the shell; his footsteps for ages are more devoutly admired in the sandstone, and animal on animal, from the coral insect to the mastodon in size,— whether alive, or sleeping in their fossil coffins for ages,— are developing more widely and profoundly the powers of the great Maker, not only of them, but of stars, planets, suns, worlds, and systems of worlds. Mere creeds and ceremonies thus yield oftener to substance, to temper soul-worship in daily life and evangelical principle. If the clergy, as a class, inspire less awe, and exercise a diminished influence on affairs of state, it is not that in matters of *morals* and religion there is any deterioration either in them or their hearers, or less respect towards them as *spiritual* guides in cases of doubt, as comforters in distress, and as active participators, often, in most measures calculated to reform the human race. But if there is still some change in manners towards them, and should any complain of this change in mere manners, let it be remembered, that it rather increases than lessens the national trait in our character, so regardful of morals, as it elevates morals above respect to mere rank; and they who complain of the change must complain of the revolutions that prostrated here most distinctions of rank, and complain of the wider diffusion of independence and light and power, since, among the people at large; and which must tend to make them, in social life, stand more on the same platform, and respect the worth of individuals more than their office or station. They say, with Burns, whatever may be the station, "the man's the man for a' that."

Under a calm and even cold exterior, their hearts are usually in the right place; their moral sympathies are always strong for the oppressed, and their moral energies active for the suffering. The manners of most in the North may also, from various causes, be more forbidding, marked more by some Quaker stiffness, than those of the mercurial French and Italians; yet manners are but *minor* morals in life, and

are often here crowded aside only by weightier matters of a people so busy, so thoughtful, and so intensely occupied by the higher cares and responsibilities of self-government. And though this position tends to make all rational beings grave and reflecting, as a habit; yet it is no derogation from the moral traits in our character, if, being generally both a Protestant people and a self-governing people, we are more arduously occupied in the great business of life than the white slave, taught to dance in his chains.

Again: while the habits of our population generally are conceded to be virtuous in a high degree, some, and especially foreign travellers and reviewers, have been accustomed to indulge in strictures on the honesty of the trading portion of our community, and to impute to them all the vices of a vagabond few. But, in truth, the character of our merchants, as a whole, stands as high, where known truthfully, as that of any in Christendom; and, so far from all making gain their god, have furnished numerous models, in the Hancocks, Faneuils and Girards, quite as munificent, patriotic, and useful to the rising generation, as the Roscoes and Lorenzo de Medicés of other countries.

Passing a few exceptions, which, in all countries, affix some stain, like spots on the brightness of the sun, let me add, that if you seek for a man in any part of the commercial world to keep safely uncounted gold, some American, if known, is more likely to be selected as most trustworthy, because among the most moral, no less than best informed. If you wish for one to sacrifice ease, popularity, and even power, in the path of duty, you will find thousands among ourselves. They are here — here. We all know them within our own circle of acquaintance. Look for one to stand by you to the grave in a good cause, or to succor the widow and orphan defrauded in a foreign land, or go, in support of liberty, to South America or Greece, or any part of the western world, or circumnavigate the globe for the diffusion of Christianity,—Americans will throng around you, and none be found better fitted for deeds like these, by their morals, as well as enterprise and intelligence. In short, require a man to scale the Andes or Himalaya; require him to cross the Chinese wall; carry merchandise to Timbuctoo, or Delhi, or Oregon, or California,— the American love of locomotion renders him ready to start at a day's notice, and his integrity will generally render him true to your interests as the needle to the pole.

As another proof of this, Americans are not only confided in here, but they are trusted in high stations elsewhere, from their high-seated moral tone and sense of responsibility, no less than intelligence. They command in the fleets of Russia; they manage the dock-yards of Turkey; they command squadrons in the India armies in Afghanistan; they obtain and deserve the confidence for millions of the Hong merchants of China. They are not all faultless, either at home or abroad, but their education and morals are so superior, generally, that

they furnish a firmer, a more granite support for confidence, whether public or private.

This last is one sheet anchor of hope that our republic will outlive as well as surpass others, bringing moral and eternal sanctions more to aid the lawgiver and magistrate, and coöperate for good with human persuasions and all temporal sanctions. It is not that Christianity, which aids so much our higher tone of morals, is the author of free government, and can alone sustain public liberty, as both of them existed before the birth of our Saviour; but that it is a new bulwark to them,—a new advocate and champion in the field for equal rights in the whole human family, and for their vigilant support by all, whether in or out of power. It is, that this and the improved morals under it tend to make the right materials, whether for the stake and *auto de fé* in religion, or the dungeon and bastile in state policy, whenever it dares attempt to avenge itself on sturdy and defying victims. Men with characters marked by such traits have further and other energies than what are derived from Plutarch and the example of his Pagan heroes; being versed in all the sufferings and animated with all the supports of prophets, apostles, and martyrs since, who dared to be honest and truthful in the worst of times.

The last trait in our character which I propose to notice on this occasion, is, the practical form given to most of our labors and improvements. This has distinguished Americans throughout their whole history. However prone to change their residence or occupation,—however eager for new enterprises and hazardous speculations,—their chief aim is usually to turn the whole to some practical use. The constant preliminary inquiry is, *Cui bono?* What good will it bring? and to whom? By the operation of this trait of character, the lives of most of us are devoted to active business, rather than study. And the dusty haunts of men have more attractions, generally, than the closet, or the solitude of the cloister. What an interesting illustration of this practical propensity is our National Patent Office! Depth and ingenuity of mind, as well as science, are often found there devoted merely to improve some of the most common utensils, or a small domestic comfort. Filled with more than ten thousand inventions for practical purposes before its conflagration, it has witnessed no exhaustion from so much fruit, but each year since has received additions of new improvements, and in an increasing ratio, till they amount, in all, to near fifteen thousand. The ingenuity of our people, so very striking, runs much into this practical channel, and is almost prominent enough to constitute a distinct peculiarity. It enables them to adapt themselves to almost any new situation or pursuit with great facility, and to make their talents both useful and practical in almost every sphere. The carpenter here is not, as in other countries, almost invariably the son of a carpenter, or the lawyer the son of a lawyer; but, having witnessed or engaged in other than parental occupations in youth, they are allured to them by taste or supposed interest; and

when freedom of business is so untrammelled as here, enterprise so vigorous, ingenuity so active, no limits can be affixed to changes and sudden metamorphoses in pursuits as well as fortunes, but still exemplifying, only more widely, the great practical account to which the whole is here turned.

So, the important truth of knowing a little of almost everything is very common in the interior, and is not to be *undervalued* in a new country, however much more division of labor is feasible in older ones, and may contribute to higher skill and wealth. The difference between us and the Old World in this respect is very striking, and the helplessness often engendered there, when no one can render aid except in the particular business to which he has been trained, is sometimes ludicrous. When a French diligence once broke down between Calais and Paris, some distance from a village, the whole company were indebted to a passenger for an ingenious temporary repair which enabled them to reach the next town in safety. That passenger was the American ambassador, and a Yankee. By qualities like these, our people become more expert in business, though perhaps less profound in exploring the principles of arts and inventions than those more highly educated and more devoted to scientific researches. From a like cause, what science we do possess is spent on improvements and machinery for practical life; on devising new implements and manures for practical husbandry; and on engineering for new canals, roads, bridges, docks, aqueducts, and everything capable of being turned to practical account. Our architecture runs in a like channel, being for use more than show; and, when expensive, it is for practical objects,— such as court-houses, custom-houses, state-houses, hotels, manufactories, churches, penitentiaries, hospitals, and colleges,— rather than private palaces, or grottoes, or mausoleums, or pyramids.

From a like tendency in our character, we make breakwaters to protect vessels, and expend millions on the excavation of harbors and rivers, and the lighting of our coasts, rather than in forming galleries of paintings or statuary, however desirable the latter may be, when ample means exist for both. Our literature, also, consists much of treatises for practical objects, such as books of elementary instruction and professional works; and, when it aspires beyond that, is usually barren of pecuniary profit, unless it treats of something which comes home to the business and bosoms of men in every-day life. Our very poetry, I fear, is getting to be imbued with rather too much of the same practical spirit, for elegance and refinement; and, in 1844, a premium was offered by a certain club for the best political song on the presidential candidates, which was larger in amount than what is generally given for a leading article in most of our best literary periodicals. The melodies, too, that sold best here, before the last presidential election, were not the Hebrew melodies by Byron.

Our travels and voyages and general reading, will all be found tinged with the same practical tendency. So, in short, are our whole

lives. Engaged in the real old age of the world, on a new theatre, three thousand miles distant from the homes of our ancestors, and earnest to perform well our parts in the new drama of a democratic government under a representative form, our first duty seems to be, to draw practical instruction from all the treasures of the past, to enlighten and strengthen, enrich and guide us in our new undertaking. Hence, as is right, we bring home, like the bee, honey from every flower, rather than flowers without honey. We go to India for useful drugs and silks, and not for Buddhism. We go to the Celestial Empire for teas, not despotic principles of government, or miserable rats and dogs for food. We visit the land of Cicero and Brutus for rags even for our paper, and sulphur for the arts, more than for gems, paintings, or mosaics, though not wholly neglecting the latter, when leisure and wealth permit; and to the neighborhood of the Pyramids and the land of the bow-string for fruits and dye-stuffs, but not Mohammedanism or broken statues. From the arid wastes around Athens, and Rome and Jerusalem, also, we are willing to obtain almost everything that remains which is useful,— recollections and helps, from days gone by, to liberty and devotion,— however degraded may be the Suliotes or Arabs that now wander among the ruins where Pericles and Paul addressed the multitude, or those where our holy Saviour taught and died. But few only, very few of our countrymen, will anywhere turn aside for relics of the fine arts, to the neglect of what is immediately conducive to gain and practical utility, though some,— and let letters and science crown such with success, — may contrive to advance both objects together, by their great ingenuity, ample resources, untamable enterprise and munificent liberality.

By thus gathering from all regions and ages whatever may serve to promote our practical progress in civilization, and by means of the whole pushing on faster the whole, in all the powers and arts of ordinary life; if our course seems less attractive to the imagination, less surrounded with poetry or romance, less with flowers and music and siren enchantments strewed in every path, it is still a course best suited to our condition as a people; because we never had any pastoral or heroic age, but began with a more advanced and grave state of society, and have had little respite since from practical and unwearied efforts to improve.

Thus, many of our people, like Themistocles, know how to make a great city from a small one, who cannot play on the lute; and not a few of them can cut down forests or build highways over morasses and mountains, who would be puzzled to translate a line of Homer, or even make a rhyme for a lady's album. But what was wanted and was urgent, we have done, and done well. We certainly have contrived to rear and educate as many children, raise as much wheat, pork and cotton, catch as many fish and whales, fight as many Indians or Mexicans, and traffic as far and as profitably, and with as many

"notions," the world over, within the last fifty years, as any other nation of our size in Christendom. But it is conceded, that we never are likely to rival France in fashions or cooks, nor England in paupers and queens, nor Italy in fiddlers. And, what may be thought by some worse than this, it is believed that, as a nation, we are not likely very soon to be dissatisfied with pushing onward and upward in this practical career, however homely, rather than in one less suited to the busy responsibilities in a republic, and to advance the great interests of grave and accountable freemen. This it is that makes our people considerate and watchful to consult the greatest good to the greatest number, in every-day life, rather than flitting like the butterfly from flower to flower through the summer, or sporting like a moth in the lamp's blaze, in idle frivolity or fancy pursuits, till we fall victims to our idleness and follies.

We are made more practical, too, as a people, even by some of our few holidays. The anniversary of Independence is devoted to discussions on liberty, and reviews of public measures and criticisms of political leaders. Politics being a part of the every-day business of life, under a system of self-government, whether we attend conventions or caucuses, county courts or justices' sessions, or musters or commencements of colleges, or agricultural fairs, the opportunity is seldom lost to gain some practical information on some subject or other, and to develop or strengthen our practical talents. It is all a species of training for usefulness. And if the whole people do not, as in Athens, sit on the trial of causes, the door is open to nearly all in rotation as jurors,— and all attend more or less, and all vote on almost every elective political contest. They thus form habits of investigation, discrimination, arguing, and, above all, judging deliberately on public affairs, no less than their private interests. And the reverence daily diminishes for all forms and pageantry, not sustaining what is vital, and belonging rather to governments over minds accustomed to unthinking obedience and frivolous gayety, than to the serious business of the ruling masses in a republic.

The last evidence of this practical trait in our national character, which I shall detain you by referring to this evening, is, the estimate in which mere military glare is held when contrasted with what is useful. Not that we, or any other people, can be insensible to the patriotism that defends, when need be, the hearth and the altar, that incurs sacrifices, and perils health and fortune, and stands ready in all emergencies to die for one's country. Let honors and grateful rewards always gather around it. But that mere thirst for carnage,— that mere ambition for conquest,— that reckless course of the Alexanders, Attilas and Tamerlanes, who have so wantonly ravaged much of the world, makes them the worst scourges, rather than blessings, of their race. They are hyenas to humanity, when they do so little to better its condition, and so much to fill it with pain and horror, carnage and death; and they are worthless baubles at the best, when compared

with the Franklins, the Arkwrights, the Fultons, the Whitneys and Liebigs, who have added so much practically to the wisdom and peace of mankind.

THE RIGHT AND THE DUTY OF FORMING INDEPENDENT INDIVIDUAL OPINIONS.*

THIS occasion is full of interest, from two general considerations. One is connected with the welfare of the youthful scholar, who is about to leave these classic shades for the turmoil and responsibilities of the busy world; and the other with the character, affection, and hopes of the college, anxious, as his *alma mater*, that he shall succeed well in his new career, and reflect honor on her watchful labors, to fit him for usefulness in the thorny paths of life. May neither be disappointed.

And to justify some hopes that I may prove successful in the attempt to make a few suggestions appropriate to both, allow me to dwell for a short time on a topic not unimportant to any of us. It is, independence of thought. It is, on the right and the duty of forming independent individual opinions.

When young men enter on the dusty arena of business, and leave behind the recitation-hall and lecture-room, where they have been taught by others more experienced and learned, a new theatre is opened to them. They are soon to be looked up to as teachers themselves, in different spheres. They and those of their generation are soon to rule, rather than be ruled. They will constitute the Young America of the closing half of the nineteenth century, and are destined to lead, and not follow, the drowsy hum of the rest of the world. If, then, they would reflect back honor on their past instructors, they must have formed, or must forthwith form, in many respects, inde-

* An Address, pronounced before the House of Convocation of Trinity College, in Christ Church, Hartford, July 30th, 1851.

pendent individual opinions on most of the vital affairs in which they expect to be actors, or they will be unable to take a decided stand in exigencies, and leave their foot-prints on history, making some useful impression on the age in which they live, and contributing in some degree to its progress and glory.

Without possessing such opinions, they will often be misled in the fogs which envelop mortals, and will, peradventure, be lost among the quicksands of life, which they have not the pilot firmness, if they have the pilot skill, to avoid. Without possessing and exercising such opinions, they are likely also to bring discredit on themselves and the college which has educated them, rather than to enable her, feeling a just pride in her sons, to exclaim, like the Roman matron, "*These are my jewels.*" It would show that they have not learned one of the most important lessons in life, — to think for themselves, to reason, to discriminate and decide, for themselves. Disregarding this, education is often but scattered Sibylline leaves; or, if an accumulation of knowledge, it is without system in its arrangement, or skill in its employment. It may be the acquisition of tools, but it is without instruction for their use; means, without the courage and habit to promote the desired ends; power, without the ability to wield it; and a life doomed to servility to others, and to doubts which it has not the custom or daring to remove; — it can neither untie nor cut them. Instead of meeting occasionally with Gordian knots, such a person will find the highways of life strewed with them; and the unfortunate imbecile will become as much disgraced in his career as he is slavish and stripped of some of the highest attributes of humanity. With no manly independence of thought, rather than being looked up to as a guide, he will be a mere cross-road post, without a guide-board. He is not a whole *bona fide* man; he is but little better than an ape. His opinions are not his own, but borrowed or pirated. He wears only second-hand clothes. His influence in society and public affairs is no more than that of a weathercock, which turns just as it is blowed upon from elsewhere. He is the victim of the perverseness of any one, bows to an *ipse dixit* instead of a reason, and swears daily to the words of some master in religion or philosophy, without any due examination. Many men thus pass their lives with few or no fixed opinions of their own, and are as dependent on others as is the ivy on the wall or tree to which it clings. Uncertain opinions, too, are apt to mystify; and hence uncertain or ambiguous words are not to be scattered among the people, but what is clear, decided, and independent. It is not the *ignis fatuus* or meteor which can be confided in by the tempest-tost mariner, but the firm and towering light-house. Uncertain or vague principles, likewise, if held up for obedience, might, like Caligula's laws, as well be hung so high as not to be at all readable by the masses. Again, the habit of forming independent individual opinions affects and improves the whole character, no less than the views entertained on particular questions. Each learns thus to discriminate well,

rather than yield uncalculating submission. By experience, each thus becomes more competent to judge, and will judge for himself; thus acquiring more decision of character, like the Howards and Frys, no less than the Luthers or Cæsars; like the Robert Halls, and John Knoxes, and the Ledyards, as well as the Wellingtons and Jacksons. This sometimes degenerates into rashness or cruelty, and leads to what is visionary; but it is not designed to do these, or to encourage knight-errantry and fighting wind-mills, nor that worst of all employments, racing over Alps to conquer worlds, and devastate, rather than improve or reform. In such ill-judged enterprises some of these energies have been developed, but at the same time wretchedly perverted; and have by this abuse, by their want of virtuous motive and useful aims, more cursed than blessed mankind. But, well directed, well influenced, these independent intelligent exertions will not despise or neglect efforts for good in the humblest spheres, on topics the least showy, if beneficial, or with associates however lowly, and unanimated with worldly ambition. It is nobility of aim, and not of station, which inspires it; and its cardinal object is, not to rush headlong into every new and daring object, or break down existing institutions, but to improve what has been established, and act with judgment and discretion, though firmly; not to conclude at once that all which is old is rotten or corrupt, and, like Southey and Coleridge, start in a career believing almost everything worm-eaten, mouldy, and a canker at its heart. They may feel warmly, yet act prudently. Each person of this temperament feels that he has a heart and a head, and uses them, it may be with enthusiasm at times, but still discreetly. Like Catholic Mary of England, such are likely to possess strong feelings, and have some *Calais* or other *engraved on their hearts*, as she said they would find on hers when she died. This ardent habit of mind can also alone impart confidence in one's own course and opinions, and thus beget self-possession in moral danger. Knowing that our opinions have been carefully analyzed and deliberately formed, we can dare to trust to them at the stake, and amidst the tortures of the Inquisition. We have then some firm pilots in life, and feel the confidence in them which is felt in marine pilots amidst the tempests of the ocean; or when several at the wheel, and as many more at the helm, in a Canadian steamer, plunge down the perilous rapids of the St. Lawrence, where a want of like judgment and simultaneous movement in the whole, as if there were a single eye and single arm, would be likely to end in the inevitable destruction of all on the cascades and whirlpools and rocks through which they dash so madly. There is another result of much weight. The habit of forming independent individual opinions on most matters enables the martyr spirit, under all kinds of rebuffs and persecution, never to falter or faint, *but "bear bravely up,"* and, if driven to the wall, cause bigots and "tyrants to fall with every blow." It is not of the rose-water school in anything. You know where to find such people, in an emergency, almost as well as

you know in mathematics that two and two make four, because they act firmly, under a fixed and certain set of principles. You know when to rely on them for the good and useful, and also when you cannot rely on them for the trifling, the frivolous, or the false. Friends in need in private life and in public, the anchors of safety and hope, they may perish in a cause, undermined by the artifices of demagogues or cloven down by brutal power, yet they will never betray it, never falter, never despair. Men of this class are the persons who leave their marks on the age in which they live, whether in religion or jurisprudence, politics or literature. They cast a bright light over a shadowy earth, rather than become the mere shadows of others. Such make reforms, and do not leave everything bound in cast iron, as they find it, or like the stiffened, fresh-looking corpses after a generation frozen in arctic ice, or like the relics in the lava which ran over Pompeii, preserving for many centuries even household furniture as unaltered as the pyramids. Such, too, draw out the whole powers of nature in everything around, and hasten onward every great and glorious work, daily imparting new energies and daily striking out new lights. By this independent course alone, progress or improvement is attainable, which seems a beneficent design of Providence. For mere vital succession, in man or anything else, would be in many respects philosophically unmeaning and apparently useless; and, of necessity, for anything to be stationary or retrograde in existence, would reflect on the infinite wisdom which formed it; for then all this lower creation would move in a circle, rather than onward or upward, and we should see our path bordered with sepulchres, and the ashes of past generations. It requires no more proof that it is the duty of all to form opinions, and exercise them in an independent manner, when the opposite course is so derogatory, and when each man is accountable for the due exercise of all his talents, and is not permitted therefore to lay aside these talents in a napkin, nor to pervert them by crime, nor smother them by the weeds of neglect.

A word or two on one other consideration, which, on this subject, appeals to the heart as well as head of young scholars just launching on the ocean of practical life. They are watched over by angel guards. Grateful returns are due to these, rather than servility to a censorious world, that dogs their footsteps with envy and backbiting. Strive, then, not to defeat the just expectations of teachers here, and much more of the beloved at the family fireside and altar, who have watched over your youthful education, and offered so many prayers and tears for your success. That pale mother yonder, who has cheered you onward; that anxious father, who has endured so many privations for your assistance; that sister, with hectic cheek; that fond brother, so full of confidence and sympathy; — all will otherwise be doomed to disappointment and anguish, and you will prove not only ungrateful to them, but unfaithful to the cause of literature, and your more elevated and hope-inspiring position in society.

Without dwelling longer on the reasons why independent individual opinion exercises so decided an influence both on private and public character, and becomes so imperative a right and duty for us all, I trust you will excuse me for occupying your attention a short time longer in considering some of the affairs of life which demand it most peculiarly. The duty of independence of opinion in matters of literature, and especially of criticism, perhaps deserves the first attention in such a place, and before such an audience. Without it, no just discrimination can exist as to the preference of one branch of study over another, or of the true ground on which it ought to rest. Belles lettres, or science, or philosophy, may rule the hour with a sort of ephemeral power, and be followed together, or successively, as whim or chance shall dictate, but not with profit or distinction, unless private judgment is sternly exercised in relation to them. And the selection of one author, in any department, over another, can never, without this, be made with advantage; and no independent opinion, no severe sentence on incapacity or ignorance, no feeling of condemnation if the guilty are allowed to escape, no firmness or trust in one's convictions, no discretion to guide others or be useful to one's self, can often exist. These qualities, duly exercised, will enable real merit to occupy its elevated and deserved niche in the temple of fame, while the dunces shall sink to theirs, and not, cuckoo-like, as fabled, live by hatching the eggs of other birds. This course alone can prevent the triumph of mere adventitious circumstances over true genius, wealth over merit, or rank over humility; troops of friends over the friendless, influence and position in social life over him whose fate is bound to "some cold patron or a jail." So, without such private judgment, well cultivated and persisted in, no metaphysical truth can be successfully explored; no Lockes formed to give to the understanding its due vigor; no Sydneys and Russells trained to vindicate with pen, as well as tongue and life, political rights; no Galileo to insist that the world moves, and, though consigned to a dungeon for this, to insist that *it still moves;* and, in truth, no Copernicus to develop the true revolutions of the solar system, amidst superstition, incredulity, and popular prejudice, dogging him to his tomb. In this way alone can most errors be made to tremble like Belshazzar and his wassail nobles, when seeing the blazing hand-writing on the wall. Thus can the idols of false philosophy, as well as false religion and false government, be overturned, and the unnatural images of a bad taste in literature be torn from their dusty picture-frames. What but such a habit can probe the character in literature of every nation, and at every stage in its progress, and boldly teach us what should be imitated and what shunned; and embolden us to read, with an almost supernatural tongue, the soul of a people in their fine arts, and especially in their painting and poetry? We can thus see, with almost apocalyptic eye, most of the mysteries of races, climates, "skyey influences," and religions, if their literary tastes gush out with the ardor and boldness of independent individual

feeling. Without resolute independence of thought on literature, where would have been the Bentleys, and Johnsons, and Scaligers, and Niebuhrs, and Jeffries? Where sound taste, instead of Della Cruscan frippery? Where honest censure, in place of adulation and sycophancy? Without these, too, in the individuals who read and decide on literary merit, what is public opinion worth, on literary men or literary works? A thousand echoes of one servile friend are still nothing but echoes. A thousand nothings added together make no more in weight than one nothing. And when the whole commonwealth of letters, or a majority of it, is made up of imitations, daguerreotype copies, indiscriminate censure or applause, its decrees should possess little influence; and sound literature and sound scholarship are likely often to suffer for it whole generations. The right to individual opinion must also exist in the great republic of letters, or literary society is made to degenerate into a despotism, and the standard of merit is degraded, and the just influence of the educated portions of the community is lessened. In matters of criticism and scholarship, also, mankind are too apt, in modern times, to give disproportionate weight to what is merely ancient, following, in confiding credulity, many things merely because they have existed, and not because, after independent scrutiny, they are found to be best. But such a scrutiny may satisfy us that many things now supposed to be wrong in literature or science are right, and some now deemed right are really wrong. The more modern opinions are, however, the more likely to be right, as they are formed in the manhood of the world, rather than in its cradle or inexperienced infancy. They are formed, too, after a fuller discussion through many ages, and after the superiority of many of their views has been tested in a thousand battle-fields of the master-minds in successive ages. Again, to judge what is right in literature by the exercise of individual opinion, it is not enough to garner up the past, to amass facts; but we must think on them, think fearlessly, — we must use them as helps to something higher, stepping-stones to what may advance the hopes of humanity in escaping more and more from the dominion of error. Independent scrutiny may, in this way, emancipate us from many slavish opinions as to the intelligence of certain ages, and schools of philosophy, and distinguished luminaries in the history of the world; and while some are found to be types and exponents of their times, a few, like Socrates and Bacon, are in advance of them, and, unfortunately, others are as much behind their times as some of the drones in the cloisters of St. Omer's. On the same theory, the duty of private judgment in all things will teach us to discriminate in the same individual; and if we think with Lord Coke on law, not to agree with him, or his age, as to witchcraft or intolerance; or, thinking with Lord Bacon in philosophy, or Sir Matthew Hale in religion, not to coincide with them or their generations in other things which seem manifestly erroneous and superstitious.

In the next place, a word or two on independence of thought in

matters of government. Its exercise there is vital to the preservation of public liberty. In a country so free and self-governed as ours, it must be the right and duty, no less than glory of all, to form their own opinions on most matters of political importance, and it is indispensable to the continuance of our republican system. But, as a general principle, without reference to forms of government, the obligation to think with independence, and, where not tied up by prior obligations, to act with independence in government, as in literature, is paramount. It is manifest that, otherwise, the widest door is flung open to despotism; and the great cement of the social system will cease to be a common bond of union, while no uniform guide in principle can exist for preserving law and liberty and order. This is the true general principle, but error often results from not noticing established exceptions. Man, till capable, by years of discretion and knowledge, to judge for himself in matters of government, may well acquiesce in what he finds established in the family or the state. The rashness, inexperience, and enthusiasm of youth, however mingled with many excellences, have been found, the world over and in all time, to justify making it an era in life for learning and discipline, rather than judging. But afterwards, become mature, it possesses the right, and it is rendered a duty, to think and even act for itself, independently, when not within the territory and institutions of others, and when not restrained by previous obligations. The patriarchal authority cannot reasonably govern longer; and it belongs to manhood not only to form independent opinions for itself, but, if imperfectly educated, to acquire more knowledge, and exercise it wisely in correcting them. The right of a man, as a man, bearing God's image on earth, to think and act freely for himself, when not under prior obligations, is as clear, as a general principle, as it is to see or hear for himself, or eat for himself. By no moral or political claim, independent of contract, or naked power, can government interfere with my sentiments while unexpressed, or not used so as to endanger or injure others. It might better select the fashion of my coat, or the female I must wed for weal or woe. And society possesses no more right to persecute me for this in the "more moderate forms" of social ostracism, political outlawry, or popish bulls, than with the Bastile or the Inquisition. Hence it is notorious that, in *this republic*, *opinions*, both in law and in point of fact, have, as a general position, a right to be free as air; and that freedom of speech, or fair discussion, is also guaranteed to all by the constitution itself. But on this are some very salutary limitations, often disregarded, though sacred as the rights themselves. They are such as regard to the decorum of not being blasphemous, as respect to the privileges of others, so as not to slander or libel them, and as conformity to the public peace, by not disturbing it with exhortations to violence and crime. But some insist that still further limitations are necessary. They set up some divine control as to government, some right divine to rule or think for others.

But acquiescing in this as much, and no more, as to own the hand of Deity in everything, where is the revelation for government communicated? We have no Institutes of Menu, like the Hindoos, for directions in civil as well as religious matters; no particular political code supposed to be written by the finger of God himself, — the Mosaic one as to government not being deemed binding on us, and agreed to be followed by our Puritan fathers only till they could devise "something better." Who, in the next place, is authorized to regulate this subject, in the absence of divine interposition? And, though it is urged that the doctrine that all may and should investigate is too dangerous in its consequences to be adopted, yet who is empowered to exclude or admit any one class, or one profession? And who is to fix the exact standard of knowledge or ignorance which shall qualify or disfranchise? Grant some may err, as many do when the will is free; but this is incident to humanity, and every one is as much bound to investigate, so as not to err, if possible, as he is bound to investigate at all; and he will often form an opinion in exigencies that he must and should, in many respects, trust to others better qualified than himself. But he cannot do this thoughtlessly, or without examining and seeing it to be right, as an independent and just conclusion in the crisis which is upon him. The danger of committing many errors by the exercise of independence of thought is frequently magnified. It is comparatively small, where the degree of intelligence and morals exist which are proper in all society; where the choice is for one's self, and those most near and dear to him; where they are to bear its evils, as well as reap its benefits; and where government, once established, is to be obeyed implicitly till altered. Without such obedience, government would prove a mockery. And how can any right of independent thinking excuse one from acting as he has deliberately engaged? How can conscientious scruples, or any supposed higher law, interpose and absolve afterwards? The time to start these is when the engagements to obey are made in the fundamental compacts, or in adopting them. These compacts to obey majorities should not be made without first consulting conscience, or some higher law, to see that obedience is right, and ought to be exacted to the extent promised; or if made in haste, or by inadvertence, and some of the parties feel unwilling to enforce them longer, — though it is a truism that some natural rights are renounced in government, — then it is manifestly their duty to withdraw, if the majority assents, and form new compacts of government elsewhere, accompanied by kindred associates; to go out, like the ten tribes of Israel, or Madoc of Wales, rather than remain and repudiate their own engagements to obey, or resist by force what has peacefully been stipulated, and should be peacefully performed. These allusions to conscience are not that, in my view, it is to be slighted; or, as Sir Pertinax McSycophant said, "is not a parliamentary word;" but that it is to be informed well, timed well, and applied well. The limitations on rights, and particularly those which have been imposed

by ourselves, are to be scrupulously observed, or we also violate, often, our own conscientious obligations to God, no less than to government and society. Obedience to these obligations is the duty of performing one's contracts, the duty of fidelity to our oaths, the duty of truth, — living, active truth, as well as truth theoretically. Those are in reality possessed of liberty whom the *truth thus makes free, and all are slaves beside.* I say nothing here of the great right of private opinion to attempt a revolution in some oppressive exigencies, as when political privileges have been grossly violated in some great essentials, and no other remedy exists; but I speak of the rights and duties of subjects in the ordinary administration of the laws, and in governments which the citizens themselves have made or adopted, and can peacefully change at the ballot-boxes. Without some such fixed rules in government, not amenable to violence, nor to be nullified by independent opinion, short of a majority, miserable anarchy will control everything, and the community would be in a condition little short of piracy.

But the right of independent opinion in forming political compacts is still more dear and vital, when we look to the influence of this individual opinion on PUBLIC OPINION, that supposed mistress of the world. What is public opinion composed of, but private opinions? What is the voice of any whole people, in any one government or community, but the aggregate or balance of the voices of each collected, like the result of a vote in an election, made up from the separate ballots of each citizen? Hence, if the private opinions are, in many respects, not independent, or wrong, so must be public opinion. The mountain will consist most of clay or silex, as the particles of each may predominate. Is this public opinion, then, sometimes wrong; and, if so, is it to be obeyed politically? And how can it, when erroneous, be corrected better as to government than by informing and improving individual opinions? I am one of those who think that public opinion, on many topics, as well as government, has been often wrong. Thus, though public opinion required Socrates to be persecuted, and to drink the hemlock; though public opinion nailed our Saviour to the cross; though public opinion burned Rogers and Cranmer at the stake; though public opinion has hung myriads for witchcraft; though public opinion may once have been that the blood did not circulate, that the earth was flat, and water and air had no one common ingredient,— that the power which moved a smoke-jack could not move tons across mountains and oceans, or the lightning be used to convey intelligence, almost instantaneously, over continents, — yet it was manifestly erroneous then, however powerful. Indeed, what is the revolution in religion, government, literature, and fashion, which characterizes every age, but a proof that public opinion before was wrong, or is then wrong? And if we do not concede it was, in most cases, before wrong, we admit that little or no progress is made in the world for the better, and that the human race, in its powers and hopes, instead of travelling

upward, is moving backward, or, at the best, only in a circle; — in short, that the voice of the people was the voice of God, unless in its strength, when saints and martyrs have been sacrificed, — when statesmen and patriots the most pure have fallen on the scaffold, or under the ferocious guillotine, — when philosophers, and philanthropists, and heroes, have been driven into exile or dungeons, — and when it sanctions, as now in oriental and African despotisms, such superstitions and tyranny as prevail, — most who now exercise an independent and enlightened individual opinion must disbelieve. The voice of the people — *vox populi* — is not, then, always right, in a moral or philosophical view. It may not be *vox Dei*, except in political power, in having a claim, for the time being, to obedience in government. This last it has. It is our duty, then, to bow to the supremacy of public opinion in laws, till changed or corrected by reason, information, experience. The bayonet, or disobedience, is not the true mode generally for reforming these errors in public opinion, *but reason left free to combat* them; private opinions being made more enlightened, moral, and pervading, and, when thus improved, swelling into a majority. It is thus manifest, as to public opinion, that, for the time being, what is established in government and legislation, within the constitution, must be obeyed in ordinary cases. It is the majority of individual opinions which will thus rule; which should give color and character to public opinion; and which, as right or wrong, independent or servile, make a heaven or hell of much on earth.

Our forefathers, in the exercise of private judgment in their fatherland, differed on great principles of faith, as well as government, from the majority; but, still obeying the latter till they withdrew, or suffering the penalty, they quietly sought greater indulgence in their own particular views in a wilderness. They persevered for ages in their private opinions, on all which is important to the individual or society, till, in the end, public opinion grew stronger and better, and till were thus wrought out the great monuments of them that stand and point to heaven everywhere before and around us. They were not infallible. In some respects they seem at first to have emulated the errors of their persecutors. But, whatever other motives or causes may have mingled and aided, this independent course of action predominated, and impelled the whole; and the result is, that there the great deed stands, — an empire won, — a republic established, beyond, in some respects, all Greek or Roman example. Not merely a new world discovered, of earth, trees, beasts of prey, savages, such as broke on the gaze of Columbus, but a new world of principles; a form of religion, if not, in some respects, new, yet now established and secured by new guards of toleration and freedom of conscience; and a new arena for popular rights and public liberty opened to the whole of mankind. Not for lawless violence, not for crime and anarchy; but here, thank God, the public opinion that has been durably followed, and can long safely be relied on, has been authorized or derived from the individual independ-

ent opinions of the great and good of all ages; the individual opinions which have stood the test and scrutiny of time; and the *second sober thoughts* of the intelligent and honest among us, rather than the mere impulses of passions or fanaticism, and the miserable forthcomings of lying oracles, or Rochester knockings.

But the most prominent subject on which independent individual opinion should be exercised is religion. The topic is a most delicate one. But, in my view, in relation to notions on it so interwoven, and so momentous, in life as in death, it is as much a duty, as a general rule, to form them independently, as it is to follow them with firmness. Whether through evil or good report, in the quiet valley or busy mart of commerce, at the stake, the hearth, or the altar,— religion being an affair between the individual and his God,— woe to the man who uses force, or mere authority, or corruption, to divert an accountable being from due exertions to investigate for himself, and select, with independence, the creed which his conscience and judgment, after full inquiry, shall decide to be right. Amid a chaos of opinions, truth must exist in some of them; and, if existing, should be followed. For how can man be punished hereafter for not believing and pursuing the truth, if truth does not exist, or he is not capable and bound, by proper exertions of an independent mind, to discover and follow it? He is not obliged to take a leap in the dark for eternity; to form an individual opinion by mere caprice, or usage, or even by a conscience unenlightened, and unaided by reason or education. But he is bound to test all things, and hold fast to that which is right. With such guides as education and good morals, which, as before observed, should exist in all societies, and connected with all religions and governments, this independent individual opinion is less likely to end in error than truth, and need not inspire apprehensions or doubts concerning its results. Yet some danger attends it. Individual opinion, when independent, it is admitted, is more likely to be unbelieving and rebellious than when governed by others. But this is one of the evils which, like inundations or tornadoes in the physical world, are incident to the possession of the beneficent elements of water and air. Nor can any untoward incident which may arise from it be so evil in the world as the despotism, bigotry, iron oppression, and wretched slavery, that would result from opposite doctrines. But even the occasional mischiefs from the indulgence, by all, in such free and independent judgment, are often over-estimated. The evil is chiefly confined to inexperience and ignorance; and as they are removed, ceases. Each individual feels, also, a greater interest in having a good religion, when it is chosen by himself, and known to be his own for time, if not eternity. He has, too, for a guide, always, the promptings of that divinity within, which enables him to distinguish generally the right from the wrong, when brought in contrast. Puffendorf says, "There is a natural rectitude in man's understanding, a power to discriminate what is best from the worst, which will aid him

in emergencies." Hence each is likely to form a wiser selection, if making bold and honest efforts, and especially when aided, as before suggested, and as all should be, by suitable education and good morals. Each is also inclined to love the beauty and usefulness of the good, rather than the deformity of evil, and soon acquires many rules of action from experience; and, as he will hardly prefer long a right-hand glove for the left hand, or bitter poisons to rich and luscious fruits, so he will, ere long, prefer a living, fruitful faith, to sophistry or dead works.

But there are some exceptions to these general views in favor of independence in choosing a religion. When all personal exertions fail to attain satisfactory results, and doubt overshadows the truth, then judgment may well think it safer to yield, in some things, to authority, where the latter is better informed. Particularly, then, may the immature mind yield to parental control and influence. But beyond this, then, may the individual, cramped in time and opportunity, properly confide more in others, who possess longer experience and deeper research on this particular subject. Hence, in such an emergency, the theologian might and will have, as he generally deserves, more respect to his views on what was, or was not, revelation, than the blacksmith; or as the surgeon might better be trusted to amputate a limb than the lawyer. However my reason approves of independent individual opinions, and a course of life to form and act them out on all important subjects, yet far from me be the thought not to yield due reverence to the good and great in all ages, and to their deliberate opinions. Nobly they toiled for it, richly they deserve it, freely shall they receive it. But while, for these reasons, and on some subjects, and in some periods of life, and in some peculiar exigencies, heretofore alluded to, I would, in cases of much doubt, adopt their views, as least likely to mislead on matters which they had devoted their lives to understand, yet, even then, the individual is responsible for trying himself to decide correctly, under all the lights which can be obtained; and then it is his duty to investigate, and not act blindfolded. Then he must independently adopt the views of others, as far as he goes in that direction; and then such views become his own, not by dictation or force, but the fullest examination which he is able to make, with his limited faculties and straitened means.

When matured in years, and when full responsibility is exacted from man as to opinions and conduct in all secular concerns, why should he not be held accountable, both here and hereafter, for faithfully forming a correct private judgment in religion, so far as he is able? If he is not free then to choose, Deity would be treated as the author of his errors; and far would it be from an all-wise Providence to make him free to choose, and, at the same time, not bound and able of himself to choose correctly. Man has duties in this no less momentous than his rights, and he is not to take his religion dependently and quietly from a majority, or from mere political or ecclesiastical dicta-

tion. Had this been done by our ancestors, we should still be heathens, and worshipping idols as degradingly as they are worshipped now in much of Asia, or were on the banks of the Thames and Isis when the venerable Bede, in his history of England, began its simple annals of the first conversions from Paganism; or we should be indulging in principles of heathen faith existing among some of the aborigines here, whom our learned inquirer into the mythology of the Indians and their religious opinions — Schoolcraft — considers as regarding the Great Spirit not to be a judge of their evil deeds, nor rewarding the good hereafter for a noble career in life; and that they worship a spirit of evil no less than one of good, and indulge in all the vagaries of demonology. Well, therefore, might a higher intelligence and civilization be anxious to lay the foundations of a more elevated system of faith everywhere, by encouraging an independent inquiry into what was best and truest. In deciding on a topic so vital, no matter where our lot is cast,— from the balmy groves of the south to the icy drifts of the north, in poverty or affluence, high in rank or lowly,— the same duty is required. And, with the exceptions before named, we may well be rebels against any assumed authority to control us there by creeds, or councils, or bulls of denunciation, or dungeons, or death. Hence, bold inquiry, and the defiance of reason to error, has made a Luther, a Calvin, a Chalmers, and a Socrates, in every age. Still some of them may have gone too far. Calvin may have burned Servetus; yet he has made Geneva immortal. Socrates was convicted by the Athenians for introducing "new divinities of his own," and this on the same spot where St. Paul, four hundred years after, was accused as "a setter forth of strange gods." But there is some limitation even in this. Let the individual mind, after full search and consideration, conclude that there is a revealed will, delivered by God to man,— whether on tables of stone, or through Prophets and Evangelists, or amidst the thunders of Sinai,— then independent research halts. And then the duty of obedience, rather than further examination, begins. Then neither reason nor faith seems to require the exercise of reasoning further, except to put a fair construction on the records and doctrines which are revealed. Then faith lifts her telescopic eye to heaven, and confides in the purity and truth of all which Deity has proclaimed as our guide, however incomprehensible parts of it may be to our imperfect faculties. Then are room and the right to trust in others by faith, and in all its marvels and brightened hopes. A mightier than man then speaks. Such an one points the way. A superhuman power justly claims authority to regulate the mortal. Faith takes Reason by the hand, and leads her heavenward, when her own purblind vision falters; and the believer, like honest Bunyan, thus makes a safe progress in his pilgrimage through the most thorny paths of this rugged life. No temple of reason is then to be raised in hostility, and no goddess of reason should shake our confidence in what comes from lips clearly inspired. Subordinate, but nearly allied, is the revealed

will of God in our natures, and in all beneath, around, and above us, speaking *sermons in stones, tongues in trees*, and instruction in everything. When lessons come from Him, or His wonderful works, — whether plants, or shells, or the wayside flower, the mammoth or insect, the thunder-gust or the zephyr, — it becomes us to receive them with reverence, and obedience to all they so strongly teach. We may do this without a surrender of due independence. They are "echoes from the world of matter." Indeed, they are "elder scripture, writ by God's own hand; scripture authentic, uncorrupt by man." We can take heed to their lessons consistently with Christian faith, looking to their marvellous formations and character; and to do it effectually, we need not, as whole nations have done, make deities of many plants or animals, and people the very air and water and earth with spiritual myriads, and convert even the sun into a God, with daily eye watching over and controlling all.

Without entering further, on this occasion, upon the duty of an independent private judgment in religious matters, it is obvious that such duty is correlative to the *right* to private judgment on them. It is this right that our fathers became exiles to maintain; a right whose security, in some parts of Europe, it has cost oceans of tears to support; and a right, being the true essence of liberty of conscience, that is worthy the blood which has been poured out in its defence, and the sacrifices and toils of martyrs to uphold it. Of what use, too, would be all this idolized liberty of conscience, if we were not bound to exercise it, and from all creeds carefully to select what seems the best, taking care, as before suggested, not to question what has manifestly been revealed to man by God himself? Because, from the very nature of such a case, the revealed will of our omnipotent and omniscient Judge must control all our own views, being so much higher, and wiser, and holier. But where revelation does not exist, or restrain, however daring and dangerous it may seem to some, all must exercise independence of inquiry; and, if not thus harmonizing in the end, all may still agree in great essentials, — such as faith in the Bible as revealed, faith in Christianity, faith in a resurrection and eternity. What is Protestantism itself but a claim to this right of private judgment and action on such subjects? What, indeed, have been its religious wars for centuries of carnage, but to protest against penalties and force in matters of religion, and maintain and secure this sacred right when invaded by persecution?

In conclusion, it will be seen that we consider this duty of private judgment, as intimated in the early part of our address, to extend more or less to everything; and as exercised, and exercised well or ill, to cast a healthy or sickly hue over all the character, and all the affairs, of life. Independence of thought gives a different hue to life. It is, in short, felt in manners as in morals; in habits as in opinions; in public as in private life; at the fireside as at the altar; and without it life is usually a milk-and-water career, with as little of usefulness

as of honor. Our little bark may move its little round, but it will never cross oceans to improve the world. We have eyes, but use those of others; ears, but listen with the ears of our neighbors; taste with their palates, talk with their tongues, feel with their nerves.

To come out from this dull routine, we must break down supine acquiescence in everything around us, without examination by and for one's self. The eccentricities of mind and opinion, and the wildness of untrammelled discussion, which burst forth in the world where all is free in opinion, are sometimes provoking, and often discourage hopes of future improvement. But, looked at philosophically, and through a series of ages, they are the sources of much improvement; they strike out new lights in the arts, and in legislation and government, and are frequently the CHIEF INDICATIONS THAT THE WORLD MOVES.

ON THE CULTIVATION, MANUFACTURE, AND FOREIGN TRADE OF COTTON.*

TREASURY DEPARTMENT,
February 29, 1836.

SIR:— Certain tabular statements and notes on the cultivation and manufacture, together with the imports and exports of cotton, are herewith submitted to the House of Representatives, in compliance with their resolution of the 12th inst.:

"*Resolved*, That the Secretary of the Treasury be directed to transmit to this House the tables indicated in a note to his annual report,† showing the progress in the cultivation and manufacture of cotton in the United States, and in other countries; also, showing the comparative quantity and value of exports and imports of cotton, and cotton manufactures, in the United States and other countries."

In order that the true character of these tables may be understood, and no expectation as to their contents be formed which an examination of them might disappoint, a brief explanation will be given of their origin, progress, and present state of completion.

They were not commenced till the last year; were at first very limited in their object, and have been attended to since only at a few brief intervals of leisure. In the course of that year, while making official investigations, they were begun, with a view to the collection of such general statistical facts as might enable me to form a satisfactory opinion upon the extent of influence which the rapid increase of the growth and manufacture of cotton in this country had exercised, and was likely to exercise for a few ensuing years, upon our revenue from foreign importations, and from the sales of the public lands in the South-western States and Territories.

In the pursuit of these inquiries, the influence of the *trade* in cotton, whether raw or manufactured, on our exports of domestic products, on our imports of cotton fabrics in particular, and generally upon all our foreign importations, so far as dependent on the amount of our

* Letter from the Secretary of the Treasury to Congress.

† The labor had been performed by Mr. Woodbury when this call was made. The usual number of this document was printed for the use of the Senate, but the House ordered 15,000 extra copies. Subsequently, an edition was printed for general circulation, by Blair & Rives.

exports,— and, in fine, its effect upon our whole foreign commerce, as well as on many other branches of our national prosperity,— became highly interesting portions of the principal investigation.

That investigation was also originally confined to the culture and manufacture of cotton in this country since the adoption of our constitution. But, in the course of my inquiries, finding that the cultivation of cotton here, and the extent of our exportations of it, were intimately connected with the growth and exportation as well as the manufacture of it in other countries, and that not only our foreign trade, but our foreign relations of peace and war, would probably be hereafter much influenced by the commercial connections which the growth and manufacture of cotton appeared to have established between them and us, I endeavored, incidentally, to collect and preserve, and afterwards arrange, such general statistical facts upon these points, during the same period, in relation to other countries, but chiefly England and France, as could be obtained amidst the pressure of other business in the short time partially devoted to the investigation of this subject.

Many of the statements in the columns from books and reports might doubtless have been made fuller, could I have commanded greater leisure for this object; and especially might more have been added by way of estimate from a few important data embraced under several particular heads. The whole topic, likewise, of the domestic trade in raw cotton and its manufactures, between different portions of the same country, and especially of the United States, might have been usefully embraced, had it come more directly within the scope of my inquiries, and had time permitted. It would throw much light on the coasting trade; communication by roads and canals; different habits and pursuits of the people in different portions of the same country, and their reciprocal dependence for certain raw and manufactured articles; tending so strongly, as, for example, it does here, to preserve frequent, constant, and friendly intercourse, and to cultivate and strengthen, for both convenience and interest, the bonds of harmony and union.

But, unable to enlarge on that, my great solicitude was to obtain, in the first place, pertinent facts, in as great a number as practicable, with a view to form, afterwards, such estimates and inferences connected with the general object originally proposed, as might throw some new light upon it. The sources whence most of those facts were drawn I noted down, in order to determine afterwards the degree of reliance which should be placed on such as might be found to appear doubtful. In the notes appended to the several tables, the authorities for most of the facts are accordingly referred to. Where the authorities are not given, the statements in the columns are usually the result of my own computations, deduced from the best information at command.

Having proceeded far enough in the inquiries and statements to

answer the purposes originally contemplated, I formed the general estimates, deductions, and opinions, upon the influence of the growth and manufacture of cotton in this country over its revenue, commerce, and prosperity, which were expressed in several places in my last annual report, and which, with some comparative statements connected with this subject, are, on account of their intimate connection, extracted and appended (marked Q).

These tables being now called for by the House of Representatives, they are submitted, without many of those details which exist on all points, and particularly on such as relate to the different species and localities of the manufactures, and to the kinds of machinery employed in the several operations. These last were easily obtainable, and to some inquirers might be very desirable. But, as that minuteness did not come within the scope of my original examinations, what I have thus hastily collected and presented must be regarded rather as a few general facts for comparison, and as hints or suggestions to be followed out by others who enjoy more leisure, than as a full compilation of statistics on the subject of cotton. Yet, in their present imperfect and meagre state under some heads, they still contain, under each, it is hoped, a few data which may prove useful, since they bring together, in a condensed and systematic view, many scattered details on a subject very important to the finances of the country at this time, as well as to its future prosperity in each of the three great branches of national industry,— agriculture, commerce, and manufactures.

Any inferences or suggestions on the influence of tariffs upon the growth or manufacture of cotton, or on the propriety of protection to manufactures or other branches of our national interests, which have been so much agitated in former years, were studiously avoided, as not called for by the occasion, or the present condition of the country.

The notes contain numerous illustrations, additional explanations, and facts, which could not be conveniently incorporated into the tables; and some of which are very material for deciding correctly upon the accuracy of the figures and statements contained in the different columns.

The general arrangement of the tables and notes is such as to present, first, the facts and estimates on the growth or the crop of cotton, so far as practicable, for a number of different years, in those countries in the world where it is most cultivated. They exhibit, next, the foreign trade in raw cotton, by giving the exports and imports of it at several periods from and to most of the places abroad where it constitutes an article of much commerce.

The third set of tables shows the amount and condition of the manufacture of cotton, and its consumption at different dates, in most of the countries where it is extensively used; and the last series shows the foreign trade in those manufactures, during a number of years, from and to many of the principal places engaged in it.

A more minute explanation of the contents of each table and its notes is given, for convenience of reference, in the schedule annexed.

With these hasty explanatory remarks,

I have the honor to be,

Very respectfully,

Your obedient servant,

LEVI WOODBURY,

Secretary of the Treasury.

HON. JAMES K. POLK,

Speaker of the House of Representatives.

SCHEDULE OF THE TABLES AND NOTES.

A, B and C, relate to the crop or growth of raw cotton.

A gives the quantity supposed to be raised in the world at a few different periods, and in each country where it grows.

B gives the quantity computed to be grown at several dates, in each of the Southern and South-western States of this Union.

C gives the prices of it here, and in England, for many years; the capital and the number of persons estimated to be employed in growing it, and the value of the whole crop here and elsewhere.

D, E, F, G, H, relate to the foreign trade, or the exports and imports of raw cotton.

D gives the exports from the different quarters of the world chiefly engaged in that trade, at a few separate periods.

E gives the exports from most of the important places in the United States whence it is shipped.

F gives the exports from and to most of the countries engaged extensively in this trade.

G gives the imports of it into England, at several dates, and the amount from each of the most important countries raising it.

H gives the imports into France, and whence, as well as the imports into a number of other places.

J, K, L, relate to the manufacture and consumption of raw cotton, in several countries.

J gives the amount used and manufactured in most of the countries where raw cotton is much worked up.

K gives the value of the manufactures of it in several countries, and the amount of capital employed in them.

L gives the spindles and number of persons employed in the manufacture, in some places, at different periods.

M, N, O, relate to the foreign trade in cotton manufactures.

M gives the exports of them from several countries.

N gives the exports of them from England, and the amounts exported thence to several enumerated places, at different periods, so as to exhibit in the same table the imports of them into the same places from England.

O gives the exports of them from several other countries, and whither.

P is the last of the tables, and merely presents an exhibit of the dates of the most important changes in the growth, manufacture, and foreign trade of cotton, within the period chiefly referred to in the other tables.

In the subsequent tables the quantity of raw cotton has been computed in pounds; and when stated in the weights of other countries by the authors referred to, the edition (1831) of Kelly's Cambist has been followed as a guide about the contents of the kilogramme, maud, picul, &c. The prices and values, when found in the denominations of foreign currencies, have also generally been reduced to dollars and cents, computing the pound sterling at $4.80; and the statements of all considerable quantities and amounts have usually been made only in millions and large fractions of millions. This has been done for convenience and uniformity, and was supposed to be sufficient, if not better, for the comparative and general purposes contemplated in the original formation of the tables.

As most persons in conversation, and most authors, speak of "bales" or "bags," rather than pounds of cotton, whether referring to the crop, the manufacture, or the exports and imports of it, some further explanation may be proper, to show why the term has not been employed in the statements contained in any of these tables.

It was early discovered, in the preparation of them, that many contradictions and errors happened, from the uncertain quantity indicated by different persons in the use of those terms, and which might be obviated by always making the statements in pounds, and giving in a note the amount computed to be contained in bales and bags in different countries, so that the pounds could, when desirable, be converted again readily into bales or bags. By pursuing this course of using only the term pounds, the great object of comparison between the quantities of cotton grown or manufactured or exported, at different periods, and in different countries, could also be more clearly and quickly accomplished.

In illustration of these remarks, and to furnish the quantity usually contained in each bale, bag, &c., it appears that, in 1790, the bale or bag in the United States was computed at only 200 pounds. (See Treasury report, 15th February, 1791.) In the Atlantic States it is now estimated often at 300 and 325 pounds; but in those on the Gulf of Mexico, at 400 and 450 pounds Those used at Lowell, in 1831, contained, on an average, 361 pounds. (Pitkin's Statistics, page 527, note.)

At Liverpool, the Sea-island bale was, a few years ago, estimated at 280 pounds, and the Upland at 320. The bales imported into France are estimated at 300 pounds each, by Baines' History of Cotton, page 525. In 1824, all the bales imported into Liverpool averaged 266 pounds, and increased yearly, till in 1832 they weighed, on an average, 319 pounds (McCulloch, Dic. page 441). Though on the previous page he considers from 300 to 310 pounds a fair average; and Burns, cited on same page, makes it 310 pounds in 1832. The Egyptian bale contained once only 90 pounds; the Brazilian, 180 pounds (Pitk., 485); the West Indian, 350 pounds; and the Colombian bale or quintal, 101 pounds. (Cyclop. of Com.) In 1832, Burns says the average of the United States bale or bag imported into England was 345 pounds; Brazilian, 180 pounds; Egyptian, 220; West Indian, 300 pounds; East Indian, 330 pounds. (See McCulloch, 441.)

The amount of our own exports does not depend on computations from any of these data, but on the actual weight in pounds, sworn to at the custom-house.

By the last annual report of the Liverpool market, made in January, 1836, it appears that the bales have so altered in their quantity, that the estimate of the present bales or bags is: for the Upland, 321 pounds; for Orleans and Alabama, 402 pounds; for Sea-island, 322 pounds; for Brazil, 173 pounds, for Egyptian, 218 pounds; for East India, 360 pounds; and for West India, 280 pounds. As improvements are made in pressing and packing closer, to save something in the expense of bagging and freight, the constant tendency has been here to increase the weight in a bale.

A.— Cotton, Raw.

Crop of cotton grown in ——, in millions of pounds. [1]

Years.	The World.	United States.	Brazil.	West Indies.	Egypt.	Rest of Africa.	India.	Rest of Asia.	Mexico and S. America, except Brazil.	Elsewhere.
1789	–	1								
1790	–	1¼								
1791	490	2	22	12	–	46	130	190	68	20
1792	[2]	3								
1793	–	5								
1794	–	8								
1795	–	8								
1796	–	10								
1797	–	11								
1798	–	15								
1799	–	20								
1800	–	35								
1801	520	48	36	10	–	45	160	160	56	15
1802	–	55								
1803	–	60								
1804	–	65								
1805	–	70								
1806	–	80								
1807	–	80								
1808	–	75								
1809	–	82								
1810	–	85								
1811	555	80	35	12	1/12	44	170	146	57	11
1812	[3]	75								
1813	–	75								
1814	–	70								
1815	–	100								
1816	–	124								
1817	–	130								
1818	–	125								
1819	–	167								
1820	–	160								
1821	630	180	32	10	6	40	175	135	44	8
1822	–	210								
1823	–	185								
1824	–	215								
1825	–	255								
1826	–	350								

Years.	The World.	United States.	Brazil.	West Indies.	Egypt.	Rest of Africa.	India.	Rest of Asia.	Mexico and S. America, except Brazil.	Elsewhere.
1827	–	270								
1828	–	325								
1829	–	365								
1830	–	350								
1831	820	385	38	9	18	36	180	115	35	4
1832	–	390								
1833	–	445								
1834	900	460	30	8	25⅓	34	185	110	35	13
1835										
[12]			[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]

[1.] It will be seen, by the phraseology adopted, that the crop given against each year is that grown, and not that brought to market in the year; and that the year meant in the table is the calendar, and not the fiscal year. This course has been pursued as more appropriate when applied to the *raising* of a crop; but, in selling it, "the crop of 1835," for example, is often spoken of by others, when that which grew in 1834 is the crop alluded to. This explanation will enable all to make their comparisons in the mode most convenient to them, and will remove some apparent contradictions between certain authors.

[2.] In forming an estimate of the whole crop of cotton grown in the world in any particular year, I have found no precedent to aid me, except for the single year of 1834, when evidence was given before the Chamber of Peers, in France, that it probably amounted to about 460 millions of pounds. But this computation was so deficient, assigning none to Mexico, and none to South America or Africa, except to Brazil 24 millions of pounds, and to Egypt 20 millions of pounds, and only 60 millions of pounds to India, and 350 millions of pounds to the United States, and the balance of 6 millions of pounds to the West Indies, that no safe reliance could be placed on it as correct for the whole known world. My own course has been to ascertain, from all attainable sources, the exports in raw cotton of each country; to add to those the probable amount consumed at home and not exported, looking to the climate of the place, the habits of its population, and the scattered facts on this point found in respectable authors; and then to compute therefrom the whole quantity grown. Another general test of the correctness of one of my conclusions, namely, that the whole crop in the world has quite doubled in the last half-century, and now equals 900 millions of pounds, though the estimate before named is only 460 millions of pounds, exists in the fact, that a greater

increase than this has happened in the crop of the United States alone; and though, in some other countries, a diminution has occurred in the exports of cotton, from various causes, which need not here be detailed, yet the use of it has probably been reduced in no country; and in many, within that period, it has, from greater cheapness, by improvements in machinery and steam, with its healthfulness compared with other clothing, largely increased, and in some been for the first time introduced. Supposing that in warm climates, and in a population not highly civilized, as in Turkey, two pounds of cotton per head for each person are yearly consumed (see Urquhart on Turkey, page 150), and in the south of China and India not over one and a half pounds to each person, and in the places near or under the equator still less; and that, in more civilized countries where cotton is used, as in England, France, and the United States, from eight to twelve pounds per head are consumed; and supposing that only a little more than half the population of the globe, estimated at four hundred and fifty millions, use cotton, the consumption would, on an average at only two pounds per head, be quite equal to the estimated crop for the whole world. For some years past it is supposed that the consumption of cotton has been greater than the crop; and hence, that the old stocks on hand have been more exhausted, and a larger portion of the new crop called for early. (See Table 1.) This has sustained the price, and required an augmented crop of at least 20 millions of pounds per annum. (See *post*, and evidence before the French Chambers, February, 1835.)

[3.] The crop, as well as the export, of cotton of the United States, from 1809 to 1815, was sensibly diminished by means of our commercial restrictions and war; and the crop of other countries was increased, to supply the place of ours in foreign consumption. Our crop has been computed with more care, and from better data, than the crop of other portions of the world. From 1821 to 1834 it has been estimated by others much lower than in the table, and as follows:

Years.	Mill's of lbs.	Years.	Mill's of lbs.
1821	111	1828	213¼
1822	121½	1829	255¾
1828	136	1830	292
1824	152¾	1831	311⅜
1825	169¾	1832	296¼
1826	211⅜	1833	360
1827	285	1834	320¼

The above is from Marshall's tables on the trade, manufactures, &c., of England, page 110. In McCulloch's Commercial Dictionary, page 434, Reuss' tables, page 270, and Baines' History of Cotton, page 303, similar statements are made; but they are manifestly too low, as being often less in quantity than our exports; and they may differ occasionally from being founded on the exports of a particular

year, as 1825, and which were chiefly made up of the smaller crop grown in a previous year, as in 1824. They are incorrect even then, as our crop for many calendar years has been from 50 to 90 millions of pounds more than the exports of each succeeding fiscal year; this last being composed of the growth of the previous calendar year, with a small portion of it brought to market from the first of August to the first of October omitted, and a like portion of the subsequent calendar year included. The 50 to 90 millions of pounds are the quantity consumed at home, and which quantity lessens in amount as we go back to the periods when our manufactures were fewer, and when we consumed in them some cotton of foreign growth. (See another estimate in the 3d volume of the Parliamentary Reports (1833), page 89.) Another difference may arise from the bale made up here being abroad computed often at only 300 pounds (see on this *ante* and *post*). The crop in the United States in 1834 was injured in the northern parts of the cotton-growing States; but so much new land was put into cultivation, that the whole exports were a little larger, and the home consumption is presumed also to have been more. The crop for the year 1835 has likewise been more seriously injured in the same quarters; but the exports of it since September have, from early ripening, high prices, &c., been larger than either of the two previous years; and some think the whole crop was larger, while it is believed by a few that the whole crop will turn out to be somewhat less, though not so much as apprehended, the increase of lands in cultivation has been so great. February 17, 1836, the exports ascertained, on the Atlantic, had been 377,420 bags; but to same time in 1835, only 340,379; and in 1834, only 309,976. For a view of our power in the United States to grow more cotton, see Table B, note [2.]

[4.] The crop of Brazil is computed on its ascertained exports at different periods to England and elsewhere, and a home consumption in a small ratio to its population. (See Table on Exports.) It has been diminished of late years by importing cotton manufactures for home consumption, as in 1833 and '4, from England largely. (See Tables N and O, and notes; and Pitkin, 384, and '5, where are more details.) Cotton was first planted or cultivated in Brazil in 1781, for exportation. (Smithers' History of Liverpool.)

[5.] The crop of the West Indies is estimated in a similar manner; after deducting from their exports the probable portion of cotton brought there from the Spanish Main, and thence reëxported. In 1812, it is said that the crop of all the West Indies did not exceed 5½ millions (Colquhoun 378); and chiefly in Barbadoes, Bahama Islands, Dominico, and Granada (4 Humboldt's Per. Nar. 123 to '5, and notes). But this is believed to have been underrated. England now exports there largely of cotton manufactures. (See 1833 and

1834, Table N, and notes); and the United States export there some of them yearly, as well as France. All this tends to diminish the crop raised for home consumption, and probably that for export. (See exports of Mfts., Table O.) Cotton was grown first in 1776, at St. Domingo, for export. (2 v. Hist. of Colom.) But earlier in other islands, and they furnished a large part of English wants before 1785. (Edinburgh Cyclop., Art. *Cotton.*) In 1789 Hayti alone exported over seven millions of pounds; about two and a half millions of pounds in 1801, and since that less than one million of pounds yearly. (See a table in McCulloch, 926.) In 1824, a little over one million of pounds, and in 1832 about one and a half millions. (See McCulloch, 927.)

[6.] The supposed crop of Egypt, in former years, is predicated on the authority of the Dictionary of Spanish Commerce and Finance, vol. 3, page 29. On her exports (see exports), and for 1834, the New Monthly Magazine for September, 1835. She imported cotton from Smyrna and Greece till within twenty years. (See below, note 9th.) By the last advices, her crop grown in 1835 is said to be short, not exceeding eighteen or twenty millions of pounds.

[7.] The crop of the rest of Africa is computed from her exports from Morocco, Gambia, &c., and the habits and number of her population, and her soil and climate, where cotton is indigenous, and has always been grown in many sections since first discovered. (McCulloch, Dic. 436.) Of late she imports on the eastern side fewer cotton goods from India, and more there and on the western side from England and the United States. (See for 1833 and '4, from Eng. Table N, and notes. See exports from the United States, Table O.) In the island of Mauritius, in 1806, nearly two millions of pounds of cotton were raised; but it fell off gradually, till, in 1831, little or none was produced. (4 Montgomery's Hist. of British Col., page 209. See Table N, note [10.])

[8.] In India the estimate rests on her exports and vast population, long clothed chiefly in cotton of her own growth. (McCulloch, Dic. 437.) The isle of Bourbon produced it of a quality almost equal to the Sea-island. (London Encyclop., Art. *Cotton.* See her exports, Table D.) But of late years her exports of manufactured goods have declined, and her importations of them from England alone exceed $10,000,000 yearly. (See exports of manufactures from England and the United States, Table N and O, and evidence on the East India Company, 1832, appendix, page 287; and, on the growth and use of cotton in the islands of the Indian archipelago, see 1 Crawford, History, 177, 207, and 449; 2 Crawford, 350.) It is believed that the cultivation of cotton for export is on the increase; labor is so low, and the trade of India having become more free. The estimates for the

crop in India are probably not high enough, rather than being too large. (See exports, Table E and F, and supplement to Cyclop. Brit., *Cotton.*)

[9.] The rest of Asia, including China, Japan, Persia, Arabia, and Turkey, from the mildness of its climate, great population, and customary clothing, is supposed not to be computed too high. In 1766 it was grown much about Smyrna. (See Postlethwait's Dictionary, *Cotton.*) Only about six millions of pounds in 1834, near Smyrna, and most of that was shipped to Marseilles and Trieste. (McCulloch, page 1069.)

The cultivation of cotton in China began about the thirteenth century, for purposes of manufacture, though before raised in gardens for ornament. The crop increased rapidly, and was very large — probably much beyond the amount assigned in this column — till 1785 to 1790, when it began to be considerably discontinued for the purpose of raising grain, during and in consequence of famine. Much has since been imported from India, though now, in the small statistical knowledge attainable on this point as to China, she may raise more cotton than the large amount computed for her, in connection with Japan, Cochin-China, &c. (Supplement to Cyclop. Brit., *Cotton.* See exports of raw cotton, Table D.) Travellers and merchants see but little of China usually, except the south parts and the sea-board; and if in the great use of silk, furs, &c., in the colder portions, it is considered that one hundred millions of her population use cotton, and from their poverty only 1½ pounds each, the whole amount would be one hundred and fifty millions of pounds yearly in China alone.

[10.] This crop in South America and Mexico rests on similar principles, as the chief clothing was cotton when the country was first discovered by the Spaniards. It is now often of superior quality. (See Humboldt's Per. Nar. page 202.) The exports since have been considerable. (See exports.) But of late years the crop must be less, as Mexico, as well as Peru and Chili, import now from England yearly many cottons, besides what they get from the United States and elsewhere. (See exports of manufactures.) Cotton began to be cultivated for export in Caraccas in 1782. The saw gin is not yet used, but wooden rollers. (2 Hist. of Colomb.) The plant is found indigenous. (Mollier's Travels in Colombia, page 121; 4 Humb. Per. Nar. 123.) In Hall's Colombia, page 27, it is said only about four millions of pounds are grown in that government yearly. This is too small an amount. Cultivated in Surinam since 1735. (Smithers' Hist. of Liverpool, page 131.)

[11.] This column includes some remote islands, and the south of Spain, Italy and Greece, and their islands, with the Canaries, where cotton was formerly more raised, and still is considerably. (See, as

to Spain and Italy, 2 Chaptal on French Industry, page 6.) From Italy and Egypt, in 1825, when cotton was very high, over 23¾ millions of pounds were exported. (McCulloch, 949.) Some has been raised in New South Wales. (McCulloch, Dict. of Com. 436; Smithers' Hist. of Liverpool, page 126); and the cultivation is said to be resumed in Italy. Though some exports were formerly described as from Portugal, little or no cotton grew there; and the exports of it thence came chiefly from Brazil.

[12.] Some confusion has arisen from the different use or application of the word "cotton." It is said to be a word of Arabic origin (Smithers' History of Liv. 115); but the application sometimes of the word "linen," and at others of the word "woollen," to the vegetable of three or four general varieties, and which produces the wool or down now called "cotton," has led to some mistakes about its growth and use formerly in certain countries, which it is now difficult to correct. (McCulloch's Dict. of Com., 436 and '8. Baines', 287 and '96, note 66.) But it was probably grown and used largely in ancient times in Arabia, as well as India, America, and Africa, except, perhaps, in Egypt, where linen, it is supposed, chiefly superseded it, and can now be detected, but no cotton, in the clothing of the mummies, by the joints in the fibres of the stalk of the flax being visible with a microscope, whereas the fibres of cotton from the pod have no joints. (See Thompson's paper in Baines' appendix. London Encyclop., article *Cotton*, contra.) The kind of cotton chiefly cultivated now, and especially in the United States, is not the tree or shrub, but the annual and herbaceous varieties. (London Encyclop., art. *Cotton*.)

B.— Cotton, Raw.

Crop grown in ——, in millions of pounds. [1]—[2].

Years.	Virginia.	North Carolina.	South Carolina.	Georgia.	Florida.	Alabama.	Tennessee.	Mississippi.	Louisiana.	Arkansas.
1789										
1790										
1791		–	1½	½						
1792										
1793										
1794										
1795										
1796										
1797										
1798										

Years.	Virginia.	North Carolina.	South Carolina.	Georgia.	Florida.	Alabama.	Tennessee.	Mississippi.	Louisiana.	Arkansas.
1799										
1800										
1801	5	4	20	10	–	–	1			
1802										
1803										
1804										
1805										
1806										
1807										
1808										
1809										
1810										
1811	8	7	40	20	–	–	3	–	2	
1812										
1813										
1814										
1815										
1816										
1817										
1818										
1819										
1820										
1821	12	10	50	45	–	20	20	10	10	
1822										
1823										
1824										
1825										
1826	25	18	70	75	2	45	45	30	38	$\frac{1}{4}$
1827										
1828										
1829										
1830										
1831										
1832										
1833	13	10	73	88	15	65	50	70	55	$\frac{3}{4}$
1834	10	$9\frac{1}{2}$	$65\frac{1}{2}$	75	20	85	45	85	62	$\frac{1}{2}$
1835										
[4]			[3]							

[1.] I have not been able to find any official returns of either the General or the State Governments, which give the crops of cotton in

each State. The present table has, therefore, been compiled from the best data in my power: such as the foreign exports of cotton from each State, the exports coastwise, the quantity supposed to be exported from each not grown within its limits, and the amount yearly consumed within its limits. Many mistakes are made abroad, and some at home, by considering all the exports of each State as its own crop, or by computing the whole foreign exports as the whole crop, or by estimating all the bales in the United States alike, and only at 300 pounds on an average. (See such mistakes in Reuss' Tables on American Trade, 270, and Parliamentary Evidence on Manufactures, A. D. 1832.)

But it is well known in this country that the exports from New Orleans, both foreign and domestic, are composed in part of the crops of Louisiana, Arkansas, Tennessee, Mississippi, and Alabama. Part of the crops in each of those States is consumed at home, part is exported coastwise to the Northern States, and the crops of the southwestern portion of Mississippi, and the southern portion of Alabama, are chiefly exported from Mobile. In addition to some of the above remarks, applicable to the other cotton-growing States, it is proper to add, that part of the crop of Georgia is exported from Florida, and part from South Carolina; part of Florida from Alabama; and part of North Carolina from Virginia.

For an explanation of some of the fluctuations in our exports in certain years, see Table A, note [3].

[2.] From data given under the head of "Capital," in Table C, note [3], it will be seen that, in producing the whole cotton crop of the United States, only about two millions of acres of land are cultivated. In Table D it appears that all the foreign exports of cotton in the world do not probably exceed 535 millions of pounds, and of which the United States now export about 384 millions of pounds; a large portion of the residue is from the remotest parts of Asia, very little of it now coming to Europe. But, if necessary or profitable, we could raise the whole of the other 150 millions, by putting into cultivation only about 500,000 acres more cotton land, and employing less than 100,000 more field hands in this branch of industry.

But, supposing that Asia, from her distance and habits, continues to use chiefly her own raw cotton, that the increase of population in the United States should continue much as heretofore, and that the countries in Europe and elsewhere, now supplied with cotton manufactures made chiefly from our crops, should increase in population, or in the use of cotton, as fast as the United States does in population alone, and there would be required to supply the increased annual demand only about 21 millions of pounds more of raw cotton, or the product in the United States of less than 70,000 acres more each year. This has been nearly our average increase of crops in the last ten years.

(See Table and Note in extract from annual Treasury report.) It has required about 11,000 more field laborers a year, or only $\frac{1}{10}$th the annual increase of our whole population. But we probably have now, not in cultivation, more acres of land suitable for cotton than would be sufficient to raise all the cotton now grown in the world; as that would require only three to five millions of acres. Hence, it must be obvious that there is good cotton land enough in the United States, and at low prices, easily to grow, not only all the cotton wanted for foreign export in the world, but to supply the increased demand for it, probably, for ages.

The only preventive of which there is much likelihood seems to be in the augmented price of such labor as is usually devoted to this culture; so that it may not be possible to raise the crop at so low a rate as to keep possession of the European market against all competition.

In getting possession of that market so fully and rapidly heretofore (as shown in the extracts from the last annual report), the United States have been much aided by the good quality of their cotton, the low price of land, and the great improvements in cleaning cotton by Whitney's cotton-gin since 1793. One person is able to perform with it, in a day, the work of 1000 without it. (Cox's Digest of Manufactures, p. 667; Gales and Seaton's documents, 2d vol.) Besides these advantages, the unusual industry and enterprise of our population, and its freedom from taxation compared with the people of most other countries, and the wide extent of our commerce, have promoted our unprecedented progress. (Baines' Hist. 301; 5 Malte Brun, p. 193.)

The old mode of cleaning it by wooden rollers, and with the bow by hand, is still used in India and Colombia, and it is there sown broadcast, instead of in drills, and much neglected afterwards. (Baines' Hist. 64; see 3 Crawford's Hist. 350.)

The great vibrations in the prices per pound of raw cotton grown in the United States are very striking, as exhibited in Table C. The influence of these on the sales of public land, and our revenue from both them and the imports of foreign merchandise, has been briefly examined in the last annual report, extracts from which are annexed. The further influence of these on the prosperity of the south, on the rise in the value of their slave property, and on the great profits yielded by all their capital invested in growing cotton, must be very apparent to every careful observer. The single fact, that in no year has the price been but a fraction below 10 cents per pound, or a rate sufficient to yield a fair profit, while it has, at times, been as high as 29, 34, and even 44, and been on an average over 16 cents per pound since 1802, and over 21 since 1790, is probably without a parallel, in showing a large and continued profit. Further details on these and similar considerations must be left to other persons and other occasions. [See Table C, Note 3.]

[3.] In South Carolina, Georgia, and Florida, the Sea-island cotton (supposed to have come originally from Persia, and in 1786 from Bahama to the United States) succeeds; but grows there to perfection only in certain districts near the sea-coast. During the last 30 years the average annual crop has been between 9 and 11 million pounds. (See exports and prices, and a table in Seybert, 152–3: Smithers, 132.) But the quality of a part of it is inferior. (McCulloch, 436.) It has taken the place in Europe of the fine cotton from the Isle of Bourbon (London Encyclopedia, art. *Cotton*), and is superior to that. (Supplement to Cyclop. Brit., *Cotton.*)

[4.] The growth of cotton in the United States began as early as 1787, even of the Sea-island; and of other kinds earlier still, in small quantities. McCulloch, 440, says it began soon after the close of the war of the Revolution, though not exported till 1790.

T. Cox, cited in Rees' Cyclopedia, in article *United States*, says cotton was raised here in gardens before 1786, but not by planters as a crop, and before 1787 we never exported a bale. [He means of our own growth, it is presumed.] (See Table F, Note 6.) We exported a little before 1787, viz., 1785, five bags; and in 1786, six bags; which Smithers' History of Liverpool, p. 129, supposes was grown here; but see Table F, Note 9.

C.—Cotton, Raw.

Years.	Prices per pound. [1]		Capital employed in connection with growing. [3]			Persons employ'd in growing, and dependent.		Value of whole crop in	
	United States.	England.	United States.	Egypt.	Brazil.	United States.	Elsewhere.	United States.	Elsewhere.
	Cents.	Pence.	Dolls.	Dolls.	Dolls.			Dolls.	Dolls.
			Millions	Millions	Millions	Millions	Millions	Millions	Millions
1789	–	12 to 22							
1790	14½	12 to 21							
1791	26	13 to 30	3⅓	–	33	1/20	1	1/8	40½
1792	29	20 to 30							
1793	32	13 to 22							
1794	33	12 to 18							
1795	36½	15 to 27							
1796	36½	12 to 29							
1797	34	12 to 37							
1798	39	22 to 45							
1799	44	17 to 60							
1800	28	16 to 36							
1801	44	17 to 38	80	–	50	1/10	1/8	8	39⅓

Years.	Prices per pound. [1]		Capital employed in connection with growing. [3]			Persons employ'd in growing, and dependent.		Value of whole crop in	
	United States.	England.	United States.	Egypt.	Brazil.	United States.	Elsewhere.	United States.	Elsewhere.
	Cents.	Pence.	Dolls.	Dolls.	Dolls.			Dolls.	Dolls.
			Millions	Millions	Millions	Millions	Millions	Millions	Millions
1802	19	12 to 38							
1803	19	8 to 15							
1804	20	10 to 18							
1805	23	14 to 19							
1806	22	12 to 15							
1807	21½	10 to 14							
1808	19	9 to 30							
1809	16	10 to 18							
1810	16	10 to 19							
1811	15½	7 to 14	134	1/10	58	1/7	7/8	12½	37
1812	10½	11 to 14							
1813	12	16 to 26							
1814	15	28 aver.							
1815	21	20½ "							
1816	29½	18¼ "							
1817	26½	20 "							
1818	34	20 "							
1819	24	13½ "							
1820	17	11½ "							
1821	16	9½ "	300	3⅓	83	⅓	7/8	29¾	37
1822	16½	8¼ "							
1823	10 & 12	8¼ "							
1824	15	8½ "							
1825	21	11½ "							
1826	11	6¾ "							
1827	9½	6½ "							
1828	10¼	6¾ "							
1829	10	5¾ "							
1830	10	6⅞ "							
1831	9¼	5⅝ "	650	30	58	¾	⅘	38½	29¼
1832	10	6⅝ "							
1833	11	7⅜ "							
1834	13	8½ "	—	—	—	—	—	76	36½
1835	16½	12½ "	800	31	50	1	⅘ to 1		
		[2]	[3]			[4]		[5]	

[1.] From 1802 to 1826, inclusive, the prices for the United States are taken from Marshall's tables, page 110. Since that date, from official returns.

The prices given for the United States are those at the places of exportation, and are the average during the year, and including all kinds of cotton; but the Sea-island cotton is worth usually two hundred and fifty per cent. more than the other kinds (see below, in note 2); and formerly the difference was still greater, when the amount grown elsewhere was not so large. The price of cotton for 1790 is from the treasury report, 15th February, 1791. The prices from 1791 to 1801, inclusive, are from Almy and Brown's books, at Providence, deducting one cent per pound for freight, &c. The prices of raw cotton from 1789 to 1802, in the United States, fluctuated largely, and are quoted somewhat differently in some of the prices-current during those years. (See the United States Gazette and Pennsylvania Mercury for that period.) But the differences are not great, if an average be taken for the whole year.

Where rich lands and labor were low, as in Mississippi and Alabama, a few years ago, two cents per pound for cotton in the seed, or eight cents when cleaned, would pay expenses. It is supposed to be a profitable crop in the south-western States at ten cents per pound. In Baines' History of Cotton, page 316, it is stated that the planter can make a profit at six cents per pound.

In India, the Bengal cotton of inferior quality, it is said, can be raised for three cents per pound, and delivered in England for five cents. (See evidence on East India Company, 1832, page 286, appendix; Smithers' History of Liverpool, 116.) It has since been said that it will cost five cents per pound to deliver it on the wharves at Bombay. It sold in India, in 1831 and 1832, at eight to nine cents per pound. (See McCulloch's Dictionary, page 238.) In 1820, in 3 Crawford's History, 351, it is said to bring from eight to nine cents in the Indian islands.

[2.] The prices in England are given in pence, as they are so much oftener referred to in that form; but can easily be converted into cents, estimating the pound sterling at $4.80, by doubling the number of pence. They are generally the prices at Liverpool; and from 1793 to 1797, and from 1799 to 1814, are from Tooke on Prices, page 11, appendix; and are of "Georgia bowed cotton," without the duty. The rest, except from 1789 to 1793, and 1834 and 1835, are from Marshall's tables, page 114; and Baines', page 352–3; differing in some cases a little, and in Marshall giving the prices of each kind of cotton separately. (See a table in Smithers' History of Liverpool, page 149.) Those from 1789 to 1793 are from Baines', page 313, and are of West India cotton; and for 1834 and 1835, the Liverpool reports have been the guide.

As an illustration of the difference in value of different kinds of raw cotton, I annex a statement of their prices at Liverpool, June 16, 1835.

Uplands,	from 10 *d.*	to 12⅛*d.*
Orleans,	from 10	to 13
Alabama,	from 9¾	to 12¾
Sea-island,	from 23	to 34
Brazil,	from 13⅝	to 16
Surats,	from 7	to 8¾
Bengal,	from 7¼	
Laguyra,	from 13½	to 14
West Indies,	from 12¼	to 14½

See more on prices in Edinburgh Review, 427 (1832). McCulloch, page 437, 441. The finest kinds of Sea-island often bring four times as much as the inferior qualities. (McCulloch, page 437.) In 1799 it sold in Liverpool for five shillings per pound. (Smithers, page 156.) At Smyrna, before 1767, the price of common cotton appears to have been six or seven cents per pound. (Postlethwait's Dict.) At the river Gambia the price per pound is about four cents. (Montgomery's Colonial History.) In Demarara the price, in 1815, is said to average about nine to ten cents per pound. (Edinburgh Encyclopedia, article *Cotton.*) In Colombia, in 1822, the price per pound was about the same as in the United States, but it fluctuates there and in other Spanish American Governments from eight to fifteen cents a pound, with the quality and the year. (See Humboldt and Mollier's Travels.)

[3.] CAPITAL. The capital employed in growing cotton, with the income it yields, is a question of much interest and importance. But very little can be found concerning it in books, and the information obtained on it from different correspondents in the United States is defective, and is founded on quite different data in different States and by different persons.

The elements of any computation must be the average cost per acre of cotton lands, wild or cleared: and, if the former, the expense of clearing them; the amount of labor necessary per acre to produce a given quantity of raw cotton; the cost of labor, whether in the form of wages or otherwise; the expense of tools, horses, &c., with salaries of overseers, taxes paid, &c.

One mode of making the computation is as follows: The average cost of cotton lands when wild, in the old States, did not probably exceed often half a dollar per acre, including fees for patents, &c. In the new States it has generally ranged from $1.25 to $20 per acre, depending on its quality, location, and the price of cotton. The actual settlers, in purchasing of capitalists, have generally been compelled to give an advance from 50 to 100 per cent.; sometimes much more.

The expense of clearing wild land averages from ten to fifteen dollars per acre. Land in a condition to be cultivated will, on an

average, in the United States, yield from 250 lbs. to 300 lbs. of clean cotton. In the old States, 125 lbs. clean, or 500 lbs. in the seed, is an ordinary crop. (Cooper's Political Economy, p. 96.) Cox, in 1810, estimated it at 138 lbs., and others at 120 lbs. (Rees' Cyclopedia, article *United States*.)

It is believed that one field-hand or laborer, with the aid hereafter named, can cultivate, on an average, eight acres. Some say five to seven, and others ten. He will at the same time assist in raising five to eight acres of corn.

It is usual to employ in this business slave labor; and the next element in the calculation must be the capital invested in slaves for this purpose, and the annual cost of their maintenance.

The price of field-hands has nearly or quite doubled in ten years; and they now often cost eight hundred or one thousand dollars, when formerly four and five hundred dollars were the usual rate each.

The maintenance of them is another item very differently computed. Sometimes it is done by the purchase of more land and cultivating it, putting stock on it of cows, sheep, &c., so as, with the aid of other slaves, kept partly for that purpose and partly for the culture of cotton, to raise corn, pork, &c., to feed, and other materials to clothe the whole. In such case the additional land put in cultivation, the additional slaves bought, and the stock on the plantation, &c., must be considered as so much more capital.

The additional slaves, in such case, being more youthful, or more aged ones, or infirm females, may be fairly computed at an equal number with the field-hands, but costing only about half the price. The additional land should be for cultivation, about twenty acres for each field-hand. The capital in oxen, horses, sheep, tools for husbandry, &c., about thirty dollars to each slave on the plantation.

To these must be added the capital which may be deemed temporary, and not as a permanent investment, and hence is to be all yearly returned; such as expense for extra clothing not made on the plantation, for medicine, overseers, tools for labor, taxes, freight, &c., which may be forty-five dollars to each slave.

Differing from these last data, in some respects, in substance, and wholly unlike in form, is another mode of computing all the capital invested except that in the mere cotton-lands. Instead of estimating the price of slaves, &c., it may be considered that slave labor could be hired, with food, clothing, medicine, &c., at a cost for each field-hand from one hundred to one hundred and twenty dollars per year. That from thirty to forty dollars each would defray the annual expense of overseers, tools, horses for each; and that the additional and equal number of slaves, not prime field-hands, could be hired and supported for less than half the annual cost of the others.

On these data, the cotton crop, as estimated for 1835, at 480 million pounds, would grow on 1,600,000 acres, at 300 lbs. per acre, or 1,920,000, at 250 lbs. each. Considering that some lands wear out

quick, and are changed, probably the whole quantity cultivated for cotton in the United States, at this time, should be estimated at two millions or more of acres.

From the above elements the whole capital invested in growing the cotton crop in the United States can be readily computed. On one hypothesis, converting the whole capital into that which is permanent, and partly invested in lands, slaves, and tools, as fixed capital, and partly invested in bank or other stocks, or in loans so as to yield an income, and not a capital sufficient to defray those kinds of expenses which are usually deemed temporary, and are yearly remunerated, or require what is called a circulating or floating capital, and the whole will amount to more than 900 millions of dollars. On another hypothesis, considering the capital, as it generally is, divided into fixed and circulating; the capital as fixed which is invested in lands, slaves, stocks of horses, tools, &c., and only about thirty millions of dollars for other expenses, as circulating or temporary, and to be itself, and not its income or interest, used and repaid yearly, and the whole capital of both kinds will not quite equal 800 million dollars.

This last amount accords nearly with a still different mode of testing the quantity of capital, by supposing that the whole crop of 480 million pounds, at ten cents per pound, being 48 million dollars, would yield six per cent. on all the money invested in any way in raising the crop. If the capital used was all permanently invested, it would, on this hypothesis, amount to near 800 million dollars; but as from 25 to 30 million dollars is temporarily invested, and must itself be repaid yearly, the whole may, in the usual mode of treating capital employed in such business, be considered rather under than over 800 million dollars.

That amount, however, has been assumed as about correct, in the table, and is near enough for the estimate and comparisons at different periods in this country, and at the same period between this and other countries. In others, as in India, Brazil, and Egypt, the cost of labor is less, and perhaps the value of land, though the latter is doubtful; and the crop per acre, and the amount of labor performed by each hand, are believed to be less, independent of the failure there to use much the improved cotton-gin.

Here, at 250 pounds per acre as an average crop, and eight acres an average cultivation by one hand, the product would be 2000 pounds per hand, or, at ten cents per pound, would be the average of two hundred dollars per field-hand. All the planter obtains over ten cents per pound would yield him a large rate of interest above six per cent. to pay for the greater risk and uncertainty of capital invested in this species of property. (See Table B, Note 2.) The whole crop of 1834 was probably worth 75 million dollars at the actual market prices, though at 10 cents per pound only 48 millions.

It is difficult to institute any just comparison between the profits of capital invested here in the growing of cotton, and in the manufacture

of it; as in the latter so much more in proportion is invested in temporary or circulating capital to pay for wages and stock, and the whole of which is to be annually repaid. Neither have I leisure for the details.

Indeed, it might have comported better with the technical language of political economy to have divided the whole expenditures in raising cotton into three heads, viz., labor, capital, and land; to yield, in return, wages for the labor, profit or interest on the capital, and rent for the land. (See Senior's Outline of Political Economy, page 165, from the Encyclopedia Metropolitana.) It will be easy, for those who prefer it, to throw the calculation into that form; but the results then would not be such as accord best with the views proposed in this part of the Table C; which are, to present to the community here, in plain terms, and in a form as intelligible as possible to people at large, the amount of capital actually employed at different periods in growing the cotton crop in the United States; whether invested in the original purchase of lands, the clearing, or the culture of them; in the purchase of slaves, or in procuring an income for the payment, or in the actual payment of wages of free labor to raise the crop; for buying seed, tools, food, raiment, horses, &c., and for payment of taxes, overseers, or any other expense, incidental or direct, connected with the production of the crop.

Two brief statements of a very general character are subjoined, in illustration of some of the above remarks.

1st. The capital invested in cotton-lands under cultivation, at two million acres, and worth cleared, on an average, $20 per acre, is	$40,000,000
The capital in field-hands, and in other lands, stock, labor, &c., to feed and clothe them, at $100 per year, on 340,000 in number, would require the interest or income of a capital, at six per cent., of	544,000,000
The maintenance of 340,000 more assistants, &c., at $30 each per year, would require the income of a capital, at six per cent., of	167,000,000
The capital to supply enough interest or income to pay for tools, horses for ploughing cotton, taxes, medicines, overseers, &c., at $30, for the first 340,000, would be	167,000,000
Making in all a permanent capital, if so used, equal to	$918,000,000

2d. The capital in cotton lands, as stated above, .	$40,000,000
Capital in the purchase of 340,000 field-hands, at $800 each, on an average, ...	272,000,000
Capital in the other 340,000, to aid and to raise food, clothing, &c., at half price, ...	136,000,000

Amount brought over, .	$448,000,000
Capital in horses, cattle, sheep, utensils, &c., for plantation, about $30 to each person, to aid in making food and clothing, &c., ...	20,400,000
Capital in other lands, to support stock, raise corn, &c., at 20 acres to each of the 680,000, worth $20 per acre, cleared, ...	272,000,000
Capital, temporary or floating, to buy clothing not made on plantation, pay taxes, overseers, freight, tools for cotton, &c., $45 to each, ...	30,600,000
	$771,000,000

Making, in all, about $740,000,000 of capital permanently invested or fixed, and about $30,000,000 temporarily or circulating.

The crop in Demarara, per acre, is said to be 400 pounds clean. (Edinburgh Encyclopedia, article *Cotton*, 1815.) But, in another place, the crop in Guiana is computed, on an average, at only 200 pounds, and costs 14 cents (or 7*d.*) per pound to raise it.

The capital, per acre, invested there in land, buildings, slaves, &c., is computed, for 1814, at about $730, which is nearly double the amount computed above for the United States. (See same book.) He states also the cost of cotton-land, in Louisiana, at about $12½ per acre; slaves at $430 each, and assigns 30 for a plantation of 600 acres and over; horses and sheep for same, costing about $2250, or $75 for each slave. Those 30 slaves will raise 1000 pounds of cotton each (and, it is presumed, maintain themselves from the land not in cotton, and stock on it). The annual expenses of overseers, physician, tools, clothing and taxes, with freight of cotton to market, are computed at about $1350, or $45 each per year; which, deducted from the price of the cotton, valued at 21 cents per pound, or about $6450, leaves about $5100 as a return on the original investment of about $22,500 (or at the rate of nearly 25 per cent.), namely,

600 acres, at $12½ per acre, ...	$7,500
30 slaves, at $430 each, ...	12,900
Horses, sheep, &c., ...	2,250
	$22,650

[4.] The number of persons is computed on similar data and principles to those suggested in the first mode of estimating the capital. Some allowances are made in certain cases, but for comparison there have been preserved similar proportions in all the years for which the computation is carried out in the table.

Thus, two millions of acres, at one field-hand to every six acres, would require about 340,000 laborers; but many compute that the

number in the United States is over 550,000, who are chiefly, though not entirely, engaged in field labor. Suppose the whole number to be double the field-hands, as above computed, or 680,000, who are engaged in field labor, picking and otherwise assisting in the cultivation of cotton and corn, and the estimate of laborers is complete at about 680,000. But allowing that a number more should be added, who are connected with the cultivators, as infirm women, very young children, and too aged persons, &c., unable to labor in the field, besides overseers, owners and their respective families, dependent on the cotton crop, and it is presumed that then a million of persons would be considered as now engaged in the United States, directly and indirectly, in the growing of cotton; but the actual laborers are only about two-thirds of that number.

The numbers are, for comparative views, in all other countries, stated on the same principle, though they are doubtless more, in most nations, to raise the same quantity of cotton, for reasons too obvious for recital, and especially where the saw-gin and horse power are less used.

[5.] The whole value is computed from the quantity of the crop in any particular calendar year, and the price it bears here the next calendar and fiscal year, which is the time most of it is sold.

The whole value of what is grown elsewhere is computed from the number of pounds, as estimated in Table A, and rating it, on an average, at only one-half the value per pound, at the different periods which the American cotton, on an average, then bore at home. Considering the qualities of each, their cleanliness, distances from a foreign market, the great proportion of it in Asia, &c., this is supposed to be a high enough value. (See prices [Note 2 above, and Note 1] in India, and in Liverpool, of different kinds of cotton.) Our cotton is of a better species, and better cleaned, &c. (See 3 Crawford' Hist. of Ind. Arch. 350 to 360.) Though in 1791 its quality was considered so inferior that it was supposed foreign cotton must be imported to supply factories. (Gales & Seaton's Documents, vol. 1, Finance, page 142.)

D.— Cotton, Raw.

Exports from ——, in millions of pounds. [10] [11]

Years.	United States.	Egypt and Turkey.	Brazil.	India.	West Indies.	Spanish America.	Elsewhere.
1770	1/100	[8]					
1789							
1790	4/10						
1791	1/5	–	20	–	12	–	5
1792	1/7						
1793	1/2						
1794	1 2/3	–	–	–	–	1	
1795	6 1/4	–	–	20			
1796	6 1/10						
1797	3 4/5						
1798	9 1/3						
1799	9 1/2						
1800	17 4/5						
1801	20 9/10	–	24	30	17	–	7
1802	27 1/2	[2] –	–	–	–	22 1/2	
1803	41 1/10						
1804	38 1/10						
1805	40 1/3	–	–	41 1/2			
1806	37 1/2						
1807	66 1/5						
1808	12						
1809	53 1/6						
1810	93 9/10						
1811	62 1/5	–	31	–	7	–	13
1812	29						
1813	19 2/5						
1814	17 4/5						
1815	83						
1816	81 4/5						
1817	85 2/3						
1818	92 1/2						
1819	88						
1820	127 4/5						
1821	124 9/10	5 1/2	28	50	9	–	6
1822	144 7/10	4 1/2					
1823	173 7/10	11					
1824	142 2/5	14					
1825	176 1/2	–	–	75			

Years.	United States.	Egypt and Turkey.	Brazil.	India.	West Indies.	Spanish America.	Elsewhere.
1826	204½						
1827	294						
1828	210						
1829	264¾						
1830	298½	19	39	[5]68	10	–	4
1831	277	20½	37	70	12	–	4
1832	322¼						
1833	324½						
1834	384¾	23	30	80	8	7	3
1835	386½						
[1]	[2]	[3]	[4]	[6]	[7]	[8]	[9]

[1.] The exports of cotton, or, in other words, the foreign trade in raw cotton, in the whole world, is small, compared with the whole growth, manufacture and consumption, of that article. It probably does not exceed 535 millions of pounds; and of that the United States export about 384 millions of pounds, or almost three-fourths. Our exports each year have not always corresponded with that part of the previous year not consumed at home, as in 1808, 1812, &c., commercial restrictions and war caused the stocks on hand to accumulate, and the high prices in some other years have left much less on hand here than usual.

[2.] Before 1802, the exports of cotton did not appear on the custom-house books so as to show what was of foreign and what of domestic growth; and hence, before that year, and occasionally since, to 1825, one or two millions a year of our exports may have been the growth of India or the West Indies. (Seybert's Statistics, pages 152 and 257; and see Table B, Note [4]. See, when first begun, Table F, Note [9]. See amounts for some years, Seybert, 152 and 4.)

[3.] From 1821 to 1824, inclusive, from Egypt. (See Urquhart on Turkey, page 179.) The amount is too high, if the bag or bale was computed as it is now, at 218 pounds, instead of 98, as formerly. No exports were from Egypt before 1820; but previously, the supplies in England were in a considerable ratio from Smyrna and other parts of Turkey. (See Table F, and London Encyclopedia, article *Cotton*, and Edinburgh Encyclopedia, *Cotton*. See Table A, Note [6].) Her exports for 1835, as well as 1834, are said to be diminishing.

[4.] A great part of this is from the northern provinces of Brazil, and includes most of her crop. (See Walsh's Travels in Brazil.) From one-half million to one million is exported from Rio and Bahia. From 1809 to 1813, from 50,000 to 75,000 bags, averaging 180 pounds each, were exported from Maranham alone, and about two-thirds to three-fourths of it to England. (1 Koster's Travels, page 227.) From Pernambuco, the exports of raw cotton were from 1808 to 1813 on the increase, from 26,877 bags to 65,327. (See Koster's Travels, page 146, note. See Smithers' tables, in History of Liverpool.) The exports from Brazil were often formerly described to be from Portugal, as she was a dependency, and as most of it was, under her colonial system, shipped first to Portugal, and then reëxported. Little or none was raised in the mother country. (London Encyclopedia, article *Cotton.*) Coffee and sugar are taking the place of cotton in her exports.

[5.] The exports for 1830, from all places except the United States, are given partly from data in Pitkin's Stat. 484, which show that from India to all Europe, in that year, they were about 25 millions of pounds; from Egypt and the Levant, about 18¼ millions of pounds; and from Brazil and West Indies, about 49½ millions of pounds. Due additions have been made to these for exports elsewhere than to Europe.

[6.] Of this, from India, 60 millions of pounds were shipped from Bombay, and most of the rest from Calcutta. (Evid. on East India Company, pages 13 and 287, appendix, 1832, A. D. See 1 Milbourn's Orient. Com.) It is supposed that the exports of cotton from India will increase rapidly, as her trade is more free since 1833, though less restricted than formerly, since 1823. (1 Smith's Com. Digest, p. 15.)

Most of the raw cotton of the India islands has been consumed where raised. (McCulloch, page 437.) The quantities for all the years except 1805 and 1825 are estimates made by knowing the amount of exports to England and the United States, with those in some of the years to China.

In London Encyclopedia, article *Cotton*, the exports from India to China alone, in 1818, are stated at 230 millions of pounds, which must be an error, or all the other computations, as to both crops and exports, are much too low in regard to India.

[7.] The exports from the West Indies sometimes exceed their whole crop, as it is imported from the Spanish Main, and reëxported. (See Table A, Note [5].) Colquhoun, page 378, says sometimes double. In 1793 they exported to England considerable cotton grown in the United States. (Smithers, page 156.) See more on their exports, Table A, Note [5].

[8.] The exports of cotton from Spanish America in 1802 were

chiefly from Vera Cruz, collected there from other places. (1 Dict. of Span. Com. and Finance, pages 63 to 69.) From 1804 to 1810 about 5½ millions were shipped from Venezuela, yearly (Mollier's Travels in Colombia, 455 — note), and half a million from New Granada. (Ditto, 456 — note.) From Laguyra, in 1823, about one-fourth of a million exported. (Hall's Colombia, page 152.) In 1822, about one-half of a million exported from Caraccas, and 1½ million of pounds from all the Spanish provinces. (2 Hist. of Colombia, 1822.)

The exports for 1834 are an estimate of my own.

Those for 1794 are from 4 Humboldt's Personal Narrative, page 125 — note; of which very nearly half was from Laguyra (3 do. 192, 6 do. 202), and 2½ millions of pounds before the Revolution, exported from Varagua, Maracaibo, and the Gulf of Cariaco.

See Table F, Note 9, as to the exports from English territories in America before the Revolution, and which were probably grown in the West Indies or Spanish America.

[9.] Among the places not enumerated, which have exported some cotton, it is said, in Montgomery's Hist. of Brit. Col., p. 604, that 14,900 pounds of raw cotton were exported from the river Gambia, in 1833.

In 1775 there was exported to Holland alone, from Surinam, one-eighth of a million of pounds. (2 Dict. of Spanish Com.; Smithers' Hist. of Liv.)

The countries more particularly included under "Elsewhere," though not all, and about which much is known of their exports in cotton, are Demarara and Berbice. (See imports into England, Table G.) The data as to exports from Brazil, West Indies, and "Elsewhere," in last column, are chiefly the ascertained imports from those enumerated places into other countries. From Naples and Spain some cotton was, in 1817, exported to France. (2 Chapcal, page 6.) But probably most of the growth of other places. (See Table A, Note [9].)

[10.] The cost of exportation or freight from the United States to Europe is usually less than two cents per pound. (Smithers, page 139.) Even this has been reduced by the improvements which mark the spirit of the age, as the cotton is so pressed in the bales that it occupies less space in a vessel, and the vessels in this trade are so constructed as to carry more when of the same tonnage.

[11.] A small duty is imposed on it in England and France. (Baines' Hist., 317 and 515.) Yet, in 1769, it was made free to aid the manufacturer. (3 McPhers. Com. 447.) But the duty on raw cotton is remitted, or allowed in drawback, on exportation of the manufactured article in England, Pebrer says in his tables, in his work on England, though not if the raw article is reëxported. (3 McPherson on Com., page 659.) The duty was 6 per cent. ad valorem in Eng-

land, for some years before 1831, on foreign cotton, then raised to 5*s.* 10*d.* per cwt. (1 Com. Dig., p. 16, by Smith), and in 1833 reduced to 2*s.* 11*d.* per cwt. On cotton from a British possession, the duty is only 4*d.* per cwt. (See McCulloch, page 440.) But formerly, as in 1799, it was from 8*s.* 9*d.* per 100 pounds to 12*s.* 6*d.*, from different places; and from 1803 to 1815, from 16*s.* 10*d.* to 33*s.* 10*d.* (See a table in Edinb. Encyclop., article *Cotton.*)

The duty in the United States on foreign cotton imported here is, and always has remained since 1790, at 3 cents per pound. Though Mr Hamilton recommended its reduction, in 1791, to aid our manufactures. (See Rep. Dec. 30, 1791.)

The duty in France varies, under various circumstances, from 10 to 16 per cent. (See McCulloch, page 639, *Havre;* and 2 Com. Dig. 73, by Smith.)

There is said to be no duty on raw cotton in Switzerland. In England, in 1833, it is stated to be 3 farthings per pound, or 10 per cent. (West. Rev. for April, '33.)

E. — Cotton, Raw.

Exports of cotton from ——, in millions of pounds.

Years.	Louisiana.	South Carolina.	Alabama.	Georgia.	New York.	North Carolina and Virginia.	Rest of the U. States.	Whole value in dollars.
1789								
1790	—	$\frac{1}{3}$	—	—	—	—	—	48,285
1791	—	—	—	—	—	—	—	52,000
1792	—	—	—	—	—	—	—	51,470
1793	—	—	—	—	—	—	—	160,000
								Millions.
1794	—	—	—	—	—	—	—	$\frac{1}{2}$
1795	—	—	—	—	—	—	—	$2\frac{1}{4}$
1796	—	—	—	—	—	—	—	$2\frac{2}{10}$
1797	—	—	—	—	—	—	—	$1\frac{1}{4}$
1798	—	—	—	—	—	—	—	$3\frac{1}{2}$
1799	—	—	—	—	—	—	—	$4\frac{1}{10}$
1800	—	10	—	3	—	5	—	5
1801	—	—	—	—	—	—	—	$9\frac{1}{10}$
1802	—	—	—	—	—	—	—	$5\frac{1}{4}$
1803	—	—	—	—	—	—	—	$7\frac{2}{4}$
1804	—	—	—	—	—	—	—	$7\frac{3}{4}$
1805	—	—	—	—	—	—	—	$9\frac{1}{2}$
1806	—	—	—	—	—	—	—	$8\frac{1}{4}$
1807	—	—	—	—	—	—	—	$14\frac{1}{4}$
1808	—	—	—	—	—	—	—	$2\frac{1}{4}$

Years.	Louisiana.	South Carolina.	Alabama.	Georgia.	New York.	North Carolina and Virginia.	Rest of the U. States.	Whole value in dollars.
1809	–	–	–	–	–	–	–	8½
1810	5	40	–	20	10	15	4	15½
1811	–	–	–	–	–	–	–	9½
1812	–	–	–	–	–	–	–	8
1813	–	–	–	–	–	–	–	2½
1814	–	–	–	–	–	–	–	2½
1815	–	–	–	–	–	–	–	17½
1816	–	–	–	–	–	–	–	24½
1817	–	–	–	–	–	–	–	22½
1818	–	–	–	–	–	–	–	31½
1819	–	–	–	–	–	–	–	21
1820	30	37	8	25	28	6	3	22½
1821	–	–	–	–	–	–	–	20½
1822	–	–	–	–	–	–	–	24
1823	–	–	–	–	–	–	–	28½
1824	–	–	–	–	–	–	–	21⅜
1825	–	–	–	–	–	–	–	38⅜
1826	–	–	–	–	–	–	–	25
1827	–	–	–	–	–	–	–	29⅓
1828	–	–	–	–	–	–	–	22½
1829	–	–	–	–	–	–	–	26½
1830	120⅓	55½	24	49	37 3/10	11⅓	2	29⅜
1831	–	–	–	–	–	–	–	25¼
1832	–	–	–	–	–	–	–	31¾
1833	–	–	–	–	–	–	–	36
1834	164	67¾	51½	56⅓	30⅜	11½	3	49½
1835	–	–	–	–	–	–	–	61½
[1]		[2]						[3]

[1.] The exports from each State are the foreign ones, and for 1830 and 1834, from official data; but prior to that they are estimates from the crop, consumption at home, &c.

See Table F, Note [9], as to some exports before the Revolution.

The first cotton, supposed to be of American growth, brought to New York city for foreign export, it is said, came from Savannah in 1792, and consisted of only two bags. The amount of exports coastwise has not been ascertained, for reasons stated in the report. Those for foreign countries from any particular State often include more than the crop of that State; as from New York, which raises no cotton, and from Louisiana, which raises but a small part of her exports. (See Table B, Notes 1 and 4; F, Note 9; and P, Note 7.)

[2.] The portion exported of Sea-island cotton was in 1834 8,085,925 pounds, and in 1835 was 7,752,736; and was chiefly from South Carolina and Georgia. (See official returns.)

Its cultivation was, as remarked in a former table, introduced into South Carolina as early as 1787, from Bahama, and the export of it during the last 20 years has been, on an average, not far from 8 millions of pounds. It may be cultivated more extensively, it is supposed, in Florida. (See *prices* in Table C, and Notes; and B, and Note 3.)

It is now exported chiefly to England,—say seven-ninths,—over one-ninth to France, and the rest elsewhere. (See McCulloch, page 440.) It has taken the place of the fine cottons formerly from the Isle of Bourbon.

See a table of exports of it from 1802 to 1816, inclusive, going in some years to nearly 10 millions of pounds, and to others short of one million; but, as before named, being generally about 8 millions of pounds. (Seyb. Stat., page 152 and 4.)

[3.] The value has been computed from the quantity and average price through each year, so far as obtainable from official data.

In Seyb. Stat., page 147, is a table of the values from 1803 to 1817, inclusive.

F.—Cotton, Raw.

Exports of, to what places,—in millions of pounds.

Years.	United States to England.	United States to France.	U. States to other places than G. Britain & France.	India to England.	India to China.	Brazil to England.	West Indies to England.	Brazil and West Indies to France.	Egypt and Turkey to England.	Egypt and Turkey to France.	All other places to England.
1770	$\frac{1}{500}$	[9]									
1787	—	—	—	—	—	$2\frac{1}{2}$	$6\frac{2}{3}$	—	$5\frac{2}{3}$	—	$7\frac{3}{4}$
1789	Ratio of her imports from U. S.					Ratio of her imports from Brazil.	Ratio.				[8]
1790											
1791	$\frac{1}{1000}$	—	—	—	—	$\frac{1}{2}$	$\frac{1}{3}$				
1792	$\frac{1}{1250}$	—	—	—	—	$\frac{1}{2}$	$\frac{1}{3}$				
1793	$\frac{1}{2250}$	—	—	—	—	$\frac{1}{4}$	$\frac{1}{3}$				
1794	$\frac{1}{1750}$	—	—	$\frac{1}{3}$	—	$\frac{2}{5}$	$\frac{1}{3}$				
1795	$\frac{1}{250}$	—	—	$\frac{1}{3}$	—	$\frac{2}{5}$	$\frac{1}{3}$				
1796	$\frac{1}{111}$	—	—	$\frac{2}{3}$	—	$\frac{1}{2}$	$\frac{2}{5}$				
1797	$\frac{1}{111}$	—	—	$1\frac{1}{3}$	—	$\frac{1}{2}$	$\frac{1}{3}$				
1798	$\frac{1}{6}$	—	—	2	—	$\frac{2}{5}$	$\frac{1}{3}$				
1799	$\frac{1}{6}$	—	—	7	—	$\frac{2}{3}$	$\frac{1}{3}$				
1800	16	—	—	$6\frac{1}{3}$	—	$\frac{1}{3}$	$\frac{1}{3}$				

Years.	United States to England.	United States to France.	U. States to other places than G. Britain & France.	India to England.	India to China.	Brazil to England.	West Indies to England.	Brazil and West Indies to France.	Egypt and Turkey to England.	Egypt and Turkey to France.	All other places to England.
						Ratio.	Ratio.				
1801	19	$\frac{1}{4}$	–	$4\frac{1}{4}$	–	$\frac{1}{4}$	$\frac{2}{9}$				
1802	$23\frac{1}{2}$	2	–	3	–	$\frac{1}{3}$	$\frac{1}{6}$				
1803	$27\frac{3}{4}$	4	–	$1\frac{3}{4}$	–	$\frac{1}{3}$	$\frac{1}{10}$				
1804	$25\frac{3}{4}$	6	–	$2\frac{1}{2}$	–	$\frac{2}{9}$	$\frac{1}{12}$				
1805	$32\frac{1}{2}$	$4\frac{1}{2}$	–	$\frac{1}{4}$	–	$\frac{2}{9}$	$\frac{1}{10}$				
1806	$24\frac{1}{4}$	7	–	$2\frac{2}{3}$	–	$\frac{2}{9}$	$\frac{1}{9}$				
1807	$53\frac{1}{4}$	6	–	$3\frac{1}{2}$	–	$\frac{1}{18}$	$\frac{1}{11}$				
1808	8	2	–	$5\frac{1}{2}$	–	$\frac{1}{11}$	$\frac{2}{9}$				
1809	$13\frac{1}{3}$	–	–	$6\frac{1}{2}$	–	$\frac{1}{3}$	$\frac{1}{11}$				
1810	36	–	–	–	–	$\frac{1}{4}$	$\frac{1}{18}$				
1811	$46\frac{3}{4}$	–	–	–	–	$\frac{2}{7}$	$\frac{1}{28}$				
1812	26	–	–	–	–	$\frac{2}{5}$	$\frac{1}{23}$				
1813	–	$10\frac{1}{4}$	–	–	–	$\frac{3}{5}$	$\frac{1}{12}$				
1814	–	$1\frac{3}{4}$	–	–	–	$\frac{3}{5}$	$\frac{1}{11}$				
1815	$45\frac{2}{3}$	20	–	–	–	$\frac{1}{4}$	$\frac{1}{24}$				
1816	$57\frac{3}{4}$	18	–	–	–	$\frac{1}{3}$	$\frac{1}{35}$				
1817	51	–	–	36	–	$\frac{1}{3}$	$\frac{1}{26}$				
1818	$58\frac{1}{3}$	–	–	–	–	$\frac{1}{3}$	$\frac{1}{52}$				
1819	$51\frac{3}{4}$	–	–	–	–	$\frac{1}{3}$	$\frac{1}{52}$				
1820	90	–	–	23	–	29	$6\frac{3}{10}$	–	$\frac{1}{4}$	–	$2\frac{1}{4}$
1821	$93\frac{1}{2}$	$27\frac{1}{3}$	$9\frac{3}{4}$	9	–	$19\frac{1}{2}$	7	–	$\frac{3}{4}$	–	$2\frac{3}{4}$
1822	101	$21\frac{1}{2}$	$8\frac{3}{4}$	$4\frac{1}{2}$	–	$24\frac{3}{4}$	$10\frac{1}{4}$	–	$\frac{4}{10}$	–	2
1823	$142\frac{1}{2}$	25	$8\frac{1}{2}$	15	–	$23\frac{1}{2}$	7	–	$1\frac{1}{3}$	–	2
1824	92	$40\frac{1}{2}$	$1\frac{1}{2}$	$16\frac{1}{2}$	–	25	$6\frac{1}{4}$	–	$7\frac{7}{10}$	–	2
1825	140	30	$2\frac{3}{4}$	$20\frac{1}{4}$	–	33	8	–	19	–	$7\frac{1}{3}$
1826	131	$62\frac{1}{3}$	$8\frac{1}{2}$	21	–	$9\frac{1}{3}$	$4\frac{3}{4}$	–	10	–	1
1827	217	$70\frac{1}{2}$	$11\frac{1}{4}$	20	–	$20\frac{3}{4}$	7	–	5	–	$1\frac{1}{2}$
1828	$151\frac{3}{4}$	$53\frac{1}{2}$	$10\frac{1}{4}$	$32\frac{1}{4}$	25	29	6	–	7	–	$1\frac{3}{4}$
1829	157	$67\frac{1}{2}$	23	25	(qu.)	29	$4\frac{1}{2}$	–	6	–	$1\frac{1}{10}$
1830	211	75	$13\frac{1}{2}$	$12\frac{1}{2}$	–	33	$3\frac{1}{2}$	7	$3\frac{4}{10}$	6	$\frac{3}{4}$
1831	$205\frac{1}{2}$	46 or 50	9	26	$66\frac{1}{2}$	$31\frac{1}{2}$	$2\frac{1}{3}$	$3\frac{1}{2}$	8	$7\frac{1}{2}$	$1\frac{1}{4}$
1832	$217\frac{1}{4}$	73 or $77\frac{1}{3}$	16	35	58	20	2	$3\frac{2}{3}$	9	$8\frac{1}{2}$	$2\frac{3}{4}$
1833	$227\frac{3}{4}$	$76\frac{3}{4}$	$9\frac{1}{2}$	$32\frac{1}{4}$	–	$28\frac{1}{2}$	2	–	1	–	$1\frac{3}{4}$
1834	$266\frac{3}{4}$	$79\frac{9}{15}$	20	32	40	18	4	4	$1\frac{1}{2}$	7	
1835	252	$100\frac{1}{3}$	$16\frac{3}{4}$	$42\frac{1}{2}$	(qu.)	25	$5\frac{1}{4}$	–	$9\frac{1}{3}$		
[1]		[2]	[2]	[3]	[4]	[5]	[7]		[6]		

[1.] The exports to England from different places are given chiefly from Marshall's tables, page 110; London Encyclop., article *Cotton.* As to those from the United States, since 1820, see our own commercial tables. A slight difference sometimes occurs from a reference by some to the exports to Liverpool alone, or to England alone, not including Scotland or Ireland. The exports from the United States to them all were —

Years.	Mill's of lbs.	Years.	Mill's of lbs.
1831	217½	1834	284
1832	228	1835	269½
1833	288½		

(See Porter's official tables, page 125.) Those for 1817, from India to England, are from Rees' Cyclop., article *United States*, in a note. They are believed to be too high. The quantities are given in pounds, where ascertainable with accuracy; and where not so, the proportions are stated from Table G, which are founded on the imports into England from the United States and other countries. (See Marshall, page 110, and Smithers, page 146.) The actual quantities exported from the United States to all Great Britain, before 1800, cannot be obtained by me; but the number of bales to Liverpool alone can be, and, as a matter of some curiosity, are annexed: 1791, 64; 1792, 503; 1793, 111; 1794, 348; 1795, 2147; 1796, 4668; 1797, 5193; 1798, 12,163; 1799, 13,236; 1800, 24,188. (See more in books cited.)

[2.] The exports from the United States to England and France are sometimes taken from their official reports of imports, and sometimes from ours of exports, occasionally differing a little by losses at sea, imperfect returns, and in the former not always including Scotland and Ireland. The proportions are given, in a few cases, where the exact quantity was uncertain, on the principle in Table G. For 1813 and '14, see that table. But the quantities given for 1834 and 1835 are from our own returns. In respect to the other places to which our exports go, a statement is annexed, giving the details since 1820, while our returns have been made up accurately, and in more detail.

[3.] The exports to England from other places than the United States for 1834 and '5 are from the last annual report in January, 1836, at Liverpool. It is said in Smithers' History of Liverpool, page 124, that the first imports from India were in 1798, and proved to be very profitable; but they began five or six years earlier to London, if not to Liverpool. See Table G, and notes, and same page in Smithers, that Surats were imported in 1783; in page 125, he says that 53½ millions of pounds in one of the late years, being then 1824, were shipped from Calcutta to England; but the official tables are lower.

Statement of the quantity of cotton exported from the United States to other places than Great Britain and France, in the year ending September 30, 1821, to 1835, inclusive.

Years.	To Russia.	Holland and Belgium.	Spain.	Spanish West Indies.	Trieste.	Hanse Towns.	Italy and Malta.	All other places.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1821	304,680	4,186,096	284,882	772,296	84,976	748,110	897,804	2,506,777
1822	713,789	1,970,258	–	445,964	210,188	2,955,581	1,956,253	450,762
1823	309,678	4,650,548	–	–	177,789	2,356,594	217,663	833,332
1824	501,645	432,976	–	3,853	–	292,852	–	227,529
1825	133,984	1,420,225	–	–	–	577,109	980	509,031
1826	15,262	4,592,439	–	–	88,311	2,012,679	–	1,820,116
1827	147,101	5,861,400	7,990	–	133,204	3,389,514	148,170	1,440,547
1828	649,791	3,780,988	–	–	980,354	3,386,108	407,068	1,072,448
1829	227,883	9,595,337	–	–	4,071,247	6,857,796	1,056,387	1,261,925
1830	111,376	8,561,193	82,210	–	2,814,477	4,123,047	235,265	638,877
1831	761,735	972,659	555,098	–	2,778,858	2,416,765	305,695	2,243,741
1832	838,951	3,920,016	2,288,875	–	1,654,775	4,075,122	580,974	2,250,190
1833	1,447,405	2,678,258	758,216	–	1,107,600	1,870,620	–	1,759,615
1834	1,260,494	6,096,462	892,967	–	3,805,312	6,612,895	190,842	1,153,382
1835	974,801	5,694,358	878,219	–	4,948,061	2,788,147	12,952	1,493,760

[4.] Of the exports from India to China in 1828, over 12½ millions of pounds were from Calcutta alone. (Evidence on East India Company, page 13, 1832.) For 1834, see Baines' History, page 32, which is too low. For other years, except 1831 and 1832, see 1 Milbourne's Oriental Comm. page 281. The cotton trade to China began in the last half-century, or about 1787, and the reasons for it are stated in Table A, Note 9. The exports from 1831 and 1832 are from McCulloch, pages 237 and 238. China has raised and manufactured cotton since the thirteenth century, though less since 1787. (See Table A, Note 9.) In London Encyclop., article *Cotton*, it is said that, in 1818, about 230 millions of pounds were exported from India to China; but it is probably an error. In supplement to Encyclop. Brit., art. *Cotton*, it is supposed to be one-half what had been yearly consumed in England (1824), or 50 to 60 millions of pounds, which is higher than Milbourne, but it agrees substantially with McCulloch, whose statement is from official returns; it is the greatest article of trade from India to China, except opium. (See McCulloch, page 236; 3 Crawford, Hist. of Ind. Ar. 350.)

[5.] The exports from Brazil to England began in 1781 (Smithers' History of Liverpool, 124), and are often included till 1808 under the head of Portugal. (Smithers, 146. See Table D.)

[6.] The exports from Egypt alone to England, it is said, did not commence till 1823 (Smithers' History, page 136), and consisted of 2108 bags, or short of one quarter of a million of pounds, as their bags then weighed. See London Encyclop., article *Cotton*, which says that, before 1790, nearly 6 or 7 millions of pounds yearly were exported to England from Smyrna.

[7.] Under West Indies, the years 1834 and 1835 include Demarara and elsewhere, not enumerated, as they are not discriminated in the last annual report at Liverpool, which is the authority.

[8.] The exports of 1787 from "all other places" to England include 1⅜ millions of pounds from Demarara and Berbice.

[9.] The exports in 1770 were, from the then provinces of New York, 3 bales; from Virginia, 4 bags; and from North Carolina, 3 barrels. (Smithers' History, page 153.) It was probably all of foreign growth; that is, of the Spanish Main, or of the West Indies, as was, it is presumed, most, if not all, of the eight bags from "America," seized in 1784. (Smithers' History, 124 and 156. See Table B, note.) First exports of our own cotton were in small packages from the United States, called "pockets." (Smithers' History, 135.)

It would seem that, late as 1794, Mr. Jay, when making the treaty with England, was not aware that any cotton was exported from the United States. In Seyb. Stat., page 92, it is said that the first export of cotton of our own growth took place in 1791. (See Table B, Note 4, E, Note 1, and P, Note 7.)

G. — Cotton, Raw.

Years.	Imports of	Where from.						
	Into England.	United States.	Brazil.	Demarara and Berbice.	West Indies.	Egypt and Turkey.	India.	Other places.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	Millions.		Millions.	Millions.	Millions.	Millions.	Millions.	Millions.
1701	1 1/10 or 9/10							
1710	7/10							
1720	2							
1730	1 1/2							
1741	1 8/10							
1751	3							
1764	3 9/10							
1766	3							
1780	5							
1784	11							
1787	22	–	21 1/2	1 3/4	6 2/3	5 2/3	–	6
1789	32 1/2							
1790	31 1/2							
		Ratio.	Ratio.	Ratio.	Ratio.	Ratio.	Ratio.	Ratio.
1791	28 3/4	1/1000	1/2	–	1/3	–	–	1/8
1792	35	1/126	1/2	–	1/3	–	–	1/10
1793	19	1/225	1/4	–	1/2	–	1/25	1/8
1794	24 1/3	1/110	2/5	–	1/2	–	1/100	1/13
1795	26 1/3	1/25	2/5	–	1/2	–	1/100	1/12
1796	32	1/11	1/2	1/37	2/5	–	1/44	1/50
1797	23 1/3	1/11	1/2	1/18	1/3	–	1/17	1/28
1798	31 3/4	1/6	2/5	1/14	1/3	–	1/15	1/285
1799	43 1/3	1/9	2/7	1/11	2/7	–	1/8	1/50
1800	56	1/4	1/5	1/8	1/3	–	1/8	1/18
1801	56	1/4	1/4	1/12	2/7	–	1/13	1/33
1802	60 1/4	2/7	1/3	1/17	1/6	–	1/20	1/135
1803	53 3/4	1/2	1/3	1/10	1/10	–	1/30	1/70
1804	61 3/4	1/2	2/5	1/6	1/12	–	1/26	1/167
1805	59 2/3	2/5	2/5	1/11	1/10	–	1/110	1/38
1806	58 1/4	2/5	2/5	1/10	1/9	–	1/22	1/87
1807	75	2/4	1/3	1/9	1/11	–	1/20	1/116
1808	43 1/2	2/5	1/4	1/14	2/9	–	1/8	1/24
1809	92 3/4	1/2	1/3	1/18	1/11	–	1/15	1/38
1810	132 1/2	2/3	1/4	1/15	1/18	–	–	1/46
1811	91 1/2	2/5	2/7	1/9	1/20	–	–	1/76
1812	63	1/3	2/5	1/8	1/23	–	–	1/36
1813	51	1/4	2/5	1/10	1/12	–	–	1/20
1814	73 2/3	2/3	2/5	1/12	1/11	–	–	1/30
1815	96 1/4	4/7	1/4	1/15	1/24	–	–	1/24
1816	97 1/3	1/2	1/3	1/14	1/35	–	–	1/24
1817	126 1/4	1/2	1/3	1/24	1/26	–	–	1/14

Years.	Imports of	Where from.						
	Into England.	United States.	Brazil.	Demarara and Berbice.	West Indies.	Egypt and Turkey.	India.	Other places.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	Millions.	Ratio.	Ratio.	Ratio.	Ratio.	Ratio.	Ratio.	Ratio.
1818	174	3/7	1/3	1/40	1/52	—	—	1/5
1819	137½	1/2	1/3	1/40	1/52	—	—	1/5
1820	147½	4/7	1/5	1/45	1/78	1/530	1/7	1/65
1821	126½	5/7	1/6	1/46	1/32	1/175	1/14	1/138
1822	141½	4/5	1/5	1/32	1/45	1/350	1/35	1/216
1823	183⅓	2/5	1/6	1/72	1/52	1/143	1/13	1/72
1824	147½	3/5	1/6	1/24		1/19	1/11	1/12
1825	244⅓	3/5	2/7	1/28		1/17	1/10	1/7
1826	170½	4/5	1/7	1/40		1/13	1/8	1/8
1827	264⅓	3/4	1/11	1/38		1/56	1/13	1/22
1828	222¾	3/5	1/7	1/48		1/27	1/8	1/17
1829	218⅓	2/3	1/7	1/39		1/30	1/9	
1830	259¾	2/3 to 3/4	1/7 to 1/8	1/60		1/60	1/25	
1831	280	2/3 to 3/4	1/8	—		1/35	1/13	
1832	270⅔	3/4	1/13	—		1/30	1/8	
1833	288	7/8	1/10	—		1/300	1/8	
1834	320½	8/9	1/17	1/200		1/200	1/8	
	[303]	[9/10]						
1835	361½	3/4	1/12	—		—	1/8	
	[303½]	[14/15 to 15/16]						
	[1] [2] [3]	[5]					[4]	

[1.] For the early imports of cotton into England, see more in Baines, 346; McCulloch, 438; and Seyb. Stat. 92, note. In 1787 the imports set down as from Turkey and Egypt were entirely from the former, Smyrna, Greece, &c., and none from the last until 1820 and 1823, and since that mostly from Egypt. The "other places" were chiefly French and Spanish colonies in 1787; but include India and Turkey, where those columns are blank. (See a table in Smithers' History, page 146.) The early imports of raw cotton, after the manufacture increased much in England, were from the West Indies, Surinam, and Isle of Bourbon. (Smithers' History of Liverpool, 123.) Those from Brazil, &c., in 1824. (See Smithers, page 454.)

[2.] The proportions are given from the imports into Liverpool alone; but will not vary much for the whole kingdom. They are stated in the present form to aid in the comparison, at different periods, in the same and different countries. The fractions are very near the

true proportion, but occasionally are the next highest or lowest to the exact sum, for convenience in calculation, as is the case in fractions often in all these tables. (See Marshall, page 110; Smithers, 147.)

[3.] The whole imports into England, Scotland, and Ireland, are included in the above column; as some of the writers discriminate between those into England alone, and some do not. (See Porter's official tables, 125; McCulloch, 439.) See a table in Smithers, page 146; making the imports into Ireland one to two millions of pounds yearly, after from 1791 to 1817. In Baines, the quantities often differ a few millions, and are higher in most cases. (See also Edinburgh Review, page 19, 1827.) The usual quantity imported into Ireland and Scotland, as contradistinguished from England, has been, during the last ten years, about 10 to 15 millions of pounds per annum, it is believed. In 1834, it was about 20 millions of pounds; in 1835, it was about 18 millions of pounds. Most of that used in Ireland is believed to be reëxported from England, or included in English imports; and no separate tables have been kept of Irish imports since 1825, when those of cotton exceeded 6¾ millions of pounds. (Baines' History, page 430.) The largest amounts for 1834 and 1835 are taken from the Liverpool reports of January, 1836; and the smaller ones, in the second lines, from other sources of not so recent date.

[4.] Most of the above ratios from India, between 1793 and 1809, correspond with 1 Milbourne's Orient. Com., page 281, and may differ some from the tables as to Liverpool imports alone.

[5.] The imports from the United States in 1792, 1793, &c., were said to be chiefly through the British West Indies. (Smithers, 157.) Our ratio, it will be seen by the sums in the second line for 1834 and 1835, will vary as the English accounts differ concerning the whole actual or estimated amount of her yearly imports.

H. — Cotton, Raw.

Years.	Imports of.	Where from.			Imports of.				
	Into France.	United States.	Egypt and Turkey.	Brazil and the West Indies.	Into Saxony, Prussia, Trieste, and Russia.	Into Switzerland.	Into Spain.	Into China.	Into the United States.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	
1789									
1790	–	–	–	–	–	–	–	–	97,357 Mil's.
1791	–	–	–	–	–	–	–	–	¼
1792	–	–	–	–	–	–	–	–	½
1793	–	–	–	–	–	–	–	–	2⅔
1794	–	–	–	–	–	–	–	–	2½
1795	–	–	–	–	–	–	–	–	4
1796	–	–	–	–	–	–	–	–	4¼
1797	–	–	–	–	–	–	–	–	3½
1798	–	–	–	–	–	–	–	–	3⅔
1799	–	–	–	–	–	–	–	–	3½
1800	–	–	–	–	–	–	–	–	4¼
1801	–	¾	–	–	–	–	–	–	4½
1802	–	2	–	–	–	–	–	–	3½
1803	–	4	–	–	–	–	2½	–	3
1804	–	6	–	–	–	–	–	–	3¼
1805	–	4½	–	–	–	–	–	–	2¼
1806	21 7/10	7	–	–	–	–	–	25	2¼
1807	–	6	–	–	–	–	–	–	3⅓
1808	–	2	–	–	–	–	–	–	4½
1809	–	–	–	–	–	–	–	–	½
1810	25	–	–	–	–	–	–	–	⅓
1811	–	–	–	–	–	–	–	–	⅓
1812	–	–	–	–	–	–	–	–	½
1813	–	10¼	–	–	–	–	–	–	1⅔
1814	–	1¾	–	–	–	–	–	–	⅓
1815	–	20	–	–	–	–	–	–	⅙
1816	–	18	–	–	–	–	–	–	⅓
1817	–	–	–	–	–	–	–	–	3
1818	–	–	–	–	–	–	–	–	11½
1819	–	–	–	–	–	–	–	–	15
1820	44½	–	–	–	–	–	–	–	1
1821	47½	27⅓	–	–	–	6	–	–	⅔
1822	61	21½	–	–	–	–	–	–	¼
1823	51	25	–	–	–	–	–	–	⅙

Imports of.		Where from.			Imports of.				
Years.	Into France.	United States.	Egypt and Turkey.	Brazil and the West Indies.	Into Saxony, Prussia, Trieste, and Russia.	Into Switzerland.	Into Spain.	Into China.	Into the United States.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.	Mil's.
1824	75½	40½	–	–	–	–	–	–	2/3
1825	61⅓	30	–	–	–	–	–	–	1/2
1826	96	62⅓	–	–	–	–	–	30?	1/4
1827	87	70½	–	–	–	–	–	–	1/6
1828	61⅔	53½	–	–	–	–	–	–	1/2
1829	72½	67½	–	–	–	–	–	–	1/2
1830	84⅔ to 91	75	6	7	38	17½	–	–	1/2
1831	65½ to 61	46 to 50	7½	3½	39	18⅘	–	38 to 68	1/3
1832	77 to 85	73 to 77⅓	8½	3⅔	48	19½	–	60	1/2
1833	91	76¾	–	–	36	19	–	–	1/2
1834	83 to 94½	78 to 81¾	7	4	–	19⅓	2	45?	1/2.
1835	94¼	91	–	–	–	–	–	–	1⅔
[1]	[2]			[3]	[4]	[5]	[6]	[7]	[8] [9]

[1.] The value of the imports of raw cotton into each country it has not been deemed necessary to give in detail, as the quantity, and the prices in the United States and Liverpool, with those in India, and some other places occasionally, are presented, and will enable any person easily to make a computation of the whole value of the imports into any particular country.

[2.] The imports into any country, during any particular year, sometimes fall short of the actual consumption in that year, if a large stock, from any particular cause, be on hand at the beginning, or a very small stock at the end of the year. The whole amount imported into any place, and the amount from each country, differ a little occasionally, by mistakes in copying, or misprints, probably. For imports of 1820 and 1821, into France, see Quarterly Review (1824–5). For those of 1834, see tables of French Com. for '34; and for 1810, Edinburgh Review, page 61 (1829), which states those for 1828–9 at 80 or 90 millions of pounds; for 1806, see London Encyclop., article *Cotton*. Baines, 515. From 1822 to 1832, see a table in McCulloch's Dict., page 448, which is given below in bags. In 1819, in vol. 3, Dict. of Com. and Finance for Spain, page 244, the value of imports of raw cotton is estimated at only $2,000,000 into France, but it must be too low. Those for 1833, and the small-

est for 1834 and for 1835, are from manuscript. Annexed are the quantities in bales, and the stocks on hand each year, from 1822 to 1835, inclusive, from another and similar source, as to the three last years; the previous ones are from McCulloch. See Table T, Note [2], as to stocks on hand in England.

Statement of the general imports and stocks of cotton in France, in 1835, *compared with those of the thirteen preceding years.*

Years.		Imports.	Stocks, Dec. 31.
1822	bales	205,861	45,545
1823	"	169,845	40,078
1824	"	251,074	47,194
1825	"	204,572	35,806
1826	"	320,174	74,479
1827	"	290,617	85,408
1828	"	206,132	51,812
1829	"	242,280	29,292
1830	"	282,752	61,260
1831	"	218,393	35,810
1832	"	259,159	22,506
1833	"	305,633	51,753
1834	"	274,307	24,407
1835	"	324,425	40,096

[3.] See Pitkin's Stat., page 485.

[4.] Those for Saxony, Prussia, and Trieste, are given from Pitkin's Statistics, 485. About one-third comes from the United States, and some of it through France and Holland; from Brazil and the West Indies, one-fourth; from Egypt and Turkey, one-fifth; and from India, one-fourth. (See Note 8 below, and McCulloch's Dict., 442.) In Saxony and Prussia, the manufacture of cotton cloth is considerable, but is chiefly from English yarn. See exports of manufactures from England, and supplement to Encyclop. Britannica, article *Cotton*. The spinning is slowly increasing by machinery. In 1831, Prussia exported one-fourth more of cotton cloths than in 1826, being 17 millions of yards. (Blackwood's Magazine for January, 1836.)

[5.] Of the imports into Switzerland, quite six millions pass in some years through France. Genoa imported in 1830 two and one-half millions; in 1831, four and one-tenth millions; 1832, five and one-tenth. Half of this probably goes to Switzerland, and nearly half the imports into Trieste. (See below.) Switzerland has long imported cotton, but it has chiefly been spun by the distaff. (Supplement to Encyclop. Britannica, *Cotton*. See more Westminster Review for April, 1833.)

[6.] Those into Spain were chiefly from provinces in America. (1 Dict. of Fin. and Com.)

[7.] Except the large sum for 1831, and that for 1832, which are founded on a table in McCulloch, the imports into China are computed

from other writers on the exports thither from India, with a small addition from other places, chiefly islands. (See Tables D and F, and 3 Crawford's History.) Most of the exports from India go to China, except what went to the United States formerly, and then and now to England. (Table G.) It is feared that they are not usually stated high enough. (Supplement to Encyclop. Brit., *Cotton.*)

[8.] The imports into the United States are taken from official returns, and have been very fluctuating in amount; they have come chiefly from India. See Seybert, 92, where he says that before 1825 we consumed two millions of pounds of it yearly. For a table of imports and exports of foreign raw cotton, from 1800 to 1814, see Seyb. Stat., page 257.

[9.] Other countries of Europe than those enumerated import considerable quantities of raw cotton: e. g., Holland and Belgium, about 10 or 12 millions of pounds, of which a part passes into Germany, and five or six millions of pounds are from the United States. So into Germany direct are imported at Trieste alone, from the United States, about four to five millions, and some from Egypt and Turkey; in all, making, in 1830, 12¾ millions of pounds; 1831, 19¾ millions of pounds; and in 1832, 25¾ millions of pounds. (McCulloch, page 442.) Into the Hanse Towns are imported from here two to six millions of pounds more yearly, and about one million of pounds to Russia, &c. (See exports, Table F, Note 2.) Russia imported into Petersburg, in all 1830, 2½ millions of pounds; 1831, $\frac{7}{10}$ million of pounds; 1822, $1\frac{8}{10}$ millions of pounds. In 1834 Belgium is said by Mr. Alexander to have imported 12¾ millions of pounds of raw cotton. It is said in Westminster Review for April, 1833, that Lombardy alone consumes four million pounds of raw cotton yearly.

I.—Cotton, Raw.

Quantity consumed and manufactured in ——, in millions of pounds.

Years.	England.	France.	United States.	China & India.	S. America and Mexico, including Brazil.	Germany.	Turkey and Africa.	Spain.	Prussia.	Elsewhere.
1780	13½	in the three countries.								
1784	11¼									
1789										
1790	30½	–	5							
1791	28	10	5½	285	50	15	52	2	2	60
1792	33⅓									
1793	17¾									
1794	23									

Years.	England.	France.	United States.	China & India.	S. America and Mexico, including Brazil.	Germany.	Turkey and Africa.	Spain.	Prussia.	Elsewhere.
1795	25									
1796	31									
1797	22¼									
1798	31	18								
1799	42	10¼								
1800	51	6¾	8 [1/10]							
1801	53¾	11	9	280	45	22	50	3	5	50
1802	56½	15 1/10								
1803	51¾	15¾	–	–	–	–	–	3		
1804	66¾	17¼								
1805	58¾	18½	11 [⅛]							
1806	57¼	21¾								
1807	72½									
1808	41½									
1809	87¼									
1810	126	25	16 [3½]							
1811	89⅔	23	17	270	48	25	48	5	6	50
1812	59¾	21								
1813										
1814	52½									
1815	92	–	31½							
1816	86½									
1817	116½	30 or 26								
1818	172									
1819	132¾									
1820	142	44								
1821	114	47	50	260	42	30	45	8	7	45
1822	120½	61								
1823	177	50½								
1824	131	75	–	–	–	–	–	–	7 1/10	
1825	206	60								
1826	150¼	96								
1827	250½	87								
1828	208¼	61	60							
1829	190¾	71½								
1830	255	87⅓								
1831	257	65½	77½							
1832	260	78								
1833	284½	87	80 to 85	242	35	36	42	10	20	40
1834	297	80								[10]
1835	320¼	–	100							[9]
[1]	[2]	[3]	[4]	[11]	[8]		[5]	[7]	[6]	[12]

[1.] It is important to bear in mind that this table does not show the consumption of *manufactured* cotton, but only the consumption and manufacture of cotton from its *raw* state; hence it includes the quantity of raw cotton raised in any country and not exported, with the additional quantity imported and not reëxported, allowing the quantities on hand at the commencement and termination of each year to be similar. Most of the quantities include what is used in all ways, and made in families, as well as in manufactories. It also includes what is consumed in a raw state, which is calculated to be, in England, quite one-fourteenth. The whole consumption in Europe in 1830 was about 387 millions of pounds (Pitk. Stat., 484); or less than the present exports of the United States. The consumption in manufactures of raw cotton in all Europe, in 1803, was estimated at only 60 millions of pounds (Dictionary of Spanish Commerce); and in London Encyclopedia, article *Cotton*, computed at only 18 millions of pounds in all Europe, except England and France. Till 1773, the warp in the web of what was called cotton cloth in England was *linen*. (McCulloch, 438. See Table A, Note 9. See below, Note [12].)

[2]. The above quantities for England are generally taken from Marshall's tables, which are copied and approved by Pitkin. But Porter, in his tables, makes the quantity from 1820 to 1832 larger, by 5 to 10 millions of pounds per annum. Part of the difference may arise from including Ireland, and part by sometimes looking only to the imports, and deducting the quantity reëxported; when, in fact, the quantity on hand at the beginning and end of the year, or the actual quantity entered for home consumption, was essentially different. About 10 to 20 millions of pounds yearly, or often as little as one-sixtieth to one-thirtieth of what is imported, is reëxported from England. (See Baines, 347, and in Marshall and Pitkin's schedules of it.) An estimate for 1830, made in France, was only 241 millions of pounds; and in Chamber of Peers for 1834, was 320 millions of pounds; and by 1 Smith's Com. Dig., page 16, for 1832, was 288 millions of pounds; while the Chancellor of the Exchequer in England, in his late speech, states the quantity for home consumption in 1834 was 320 millions of pounds, and in 1835, 320¼ millions of pounds. But, by the annual Liverpool report, in February, 1836, and other sources, the consumption in 1835 is estimated higher than 1834 by 13½ millions of pounds. Others put 1834 at 303 millions of pounds, and 1835 at 330 millions. In the Edinburgh Review, page 433 (1832), a table is given from Freeman and Cook's Com. of Great Britain, from 1822 to 1831, inclusive, which is as follows: 1822, $144\frac{1}{10}$ millions of pounds; 1823, $147\frac{1}{10}$; 1824, $174\frac{1}{10}$; 1825, $169\frac{1}{10}$; 1826, $164\frac{2}{3}$; 1827, $201\frac{1}{10}$; 1828, $217\frac{3}{4}$; 1829, $221\frac{2}{3}$; 1830, 242; 1831, $257\frac{1}{2}$. The consumption in Scotland separately, and in part from English imports, exceeded, in 1835, 32 millions of pounds. Since 1823, when changes occurred in the duties, Ireland has made

considerable cotton cloth; in 1825, quite 6½ millions of yards. But it was chiefly from yarn spun in England (McCulloch, 444), or from raw cotton exported there from England; which, from 1821 to 1825, inclusive, was from 1½ to 2½ millions of pounds per annum. (See tables on this in Smithers, 150 and 151. London Encyclopedia, article *Cotton.*) In same article see a table on imports and consumption, and stock on hand, same years; at the close of 1823, in England, it was 92 millions of pounds. See Liverpool annual report, where the stock on hand at the close of 1834 was 59½ millions of pounds, and 1835, was 73½ millions of pounds. In 1833 it was about 60 millions of pounds, and had diminished gradually since 1826, when it was 100 millions of pounds. (Baines, page 318. See Table H, Note 2.)

[3.] (See on France, Baines, page 525.) But the quantity of imports is generally higher than consumption by 5 or 6 millions of pounds (unless the stock on hand is very large, when the last is sometimes highest); as, of late years especially, France reëxports to the neighboring countries, by land, 8 or 9 millions of pounds per annum, occasionally. (French Tables of Commerce, page 156, for 1832–3.) About seven-tenths of these reëxports are to Switzerland, and the rest to Sardinia, Genoa, &c. As far back as 1789, France used but little cotton, except in household manufactures. (Quar. Rev., 1824–5, page 394. For 1815, see Baines, page 515, and for 1806, see London Encyclopedia, article *Cotton.*) In the French Chamber of Peers it was testified that the consumption in 1834 was 80 millions of pounds. In the Edinburgh Review, page 432 (1832), is a table of raw cotton consumed yearly in France, from 1822 to 1831, in which the quantity is different from 1 to 10 or 12 millions in different years, some less and some more, e. g.

Years.	Mill's of lbs.	Years.	Mill's of lbs.
1822	64½	1827	84
1823	51⅞	1828	72
1824	73 1-10	1829	79½
1825	65	1830	75¼
1826	84½	1831	73 1-10

Those in the table from 1798 to 1806, and 1817, are from Sup. to Ency. Brit., *Cotton.* See Table K, into what articles the cotton is made, comparative prices, &c.

[4.] The large estimates for 1790, 1800, and 1805, in the United States, were made by myself; and the small ones, with that for 1815, are from a report of a committee of the House of Representatives, February 13, 1816. That for 1810 is from Seybert's Statistics, page 92, and includes what cotton was used in household manufactures, as do my own. Mr. Gallatin made a similar one for 1810. (Pitkin, 487.) Some estimates of earlier date probably did not include what was used in dwelling-houses. Before 1825 we consumed often 2 mil-

lions of pounds a year, of raw cotton grown abroad (Seyb. 257 and 92); and one-fourteenth of the imports and crop in the United States and England is used or consumed in its raw state, without being made into either yarn or cloth. (Table H.) In Coxe's report on manufactures for 1810, he gives the manufactures of cotton in families at 5 millions of dollars value, and number of yards 16¼ millions; which, at 50 cents, the worth of coarse cloth to each pound of cotton in it, would make 8 or 10 millions of pounds used. Coxe reports a few large manufactories, but without any data to show their consumption of raw cotton; but see Table L, spindles, note. They probably used 6 to 8 millions of pounds more. In the French Chamber of Peers the estimate was only 36 millions of pounds consumed in the United States in 1834 (see below). The whole manufacture of cotton in the United States must be as large as the estimate, though beyond the usual computation, if we look to the number of spindles, and to the great household manufacture of it in the families of the South and West, for all purposes.

Again, it is to be deduced from the fact, that, in the great cheapness and healthfulness of cotton manufactures, our population consume each five or six dollars' worth of them yearly, for clothing, bedding, sails, &c., which, at a census of 14 millions, would be from 70 to 84 millions of dollars in value. In England the consumption is computed to be only a fraction less than that, and in France it is $4 per head. In Belgium, Alexander computes it at 20 francs, or a little over $3¾ per head. As we import from England, France, and Germany, about 7 millions of dollars of cotton manufactures more than we export, and those articles are finer than our own, it is a fair estimate that we manufacture, in this country, from 50 to 70 millions of dollars' worth of cotton manufactures; which, at two pounds of raw cotton or near it per dollar of manufactured cloth, on an average, would, in all, equal about 100 millions of pounds or more of raw cotton manufactured here. Of this, about 5 to 20 millions of dollars' worth are made in domestic form, and 45 to 50 millions of dollars in factories, in A. D. 1835.

In 1831 the convention in New York estimated that only 26 millions of dollars' worth of yarn and cloth were made in manufactories; and in 1834, Pitkin, page 484, estimated all manufactures of cotton in the United States at 40 millions of dollars value yearly. This would require in 1831, as in the table, about 77 millions of pounds of raw cotton, as estimated in the convention at New York, for manufactories in twelve States. See McCulloch, 448, who supposes it was a committee of Congress.

As our population is increasing from 1830 to 1840 at the rate of nearly 4 per cent. or quite 400,000 persons per annum, and as 10 to 12 pounds of raw cotton are required per head, and our imports of cotton manufactures do not increase, we must add yearly to our manufactures about 4 to 5 millions more of raw cotton. This would make

an addition from the estimate in 1830, so that the whole consumption would, in 1835, equal 100 millions of pounds of raw cotton. An intelligent merchant and manufacturer of the North thinks the consumption now is 106 millions of pounds. The quantity manufactured here in 1817 is estimated by Reuss, in his tables on American trade, at only 31 millions of pounds, and in 1828 at 36 millions of pounds; but they must be too low, as are the usual estimates for the last three or four years, at only 80 and 85 millions of pounds, or they must include only what was worked up in factories, and the former estimate not all of that. On the great consumption of cotton in household manufactures in the United States, and the opinion entertained in 1791 on the importance and expectations of success in the establishment of manufactures by machinery, and its influence on the growth of cotton in the United States, see more in Hamilton's Report, A. D. 1791.

[5.] See Urquhart on Turkey, pages 150 and 179, that two pounds per head is manufactured there; and also that 50 millions of dollars' worth of muslins alone were yearly consumed there and in Africa. These were not all, however, of domestic manufacture, it is presumed. In Egypt it has been estimated that from 8 to 9 millions of pounds of the crop of 1835 will be consumed in that country. (See Table A, Note 9.)

[6.] This statement for Russia in 1824 is from Porter's tables, 545; see Baines, 406. In the south-western parts of Russia, bordering on Germany, manufactories and machinery have been considerably introduced, and yarn from England is woven there, as in India and elsewhere, as well as raw cotton, imported chiefly from the United States, either direct or through the ports on the Baltic. (See exports of raw cotton, Table F, Note.) A few others have been established south-east of Moscow (see London Encyclop., article *Cotton*), and one cotton-mill is in operation in St. Petersburg.

[7.] Used up mostly into calicoes, tapes, and galloons. Spain in 1803 (1 Dict. of Spanish Com., 63; 3 do., 148) made 5,640,810 yards of cotton cloth, 51,900 pairs of cotton stockings, and 2,686,142 yards of tape.

[8.] In Puebla in Mexico, in 1803, were manufactured 1½ millions of pounds of raw cotton. (4 Dict. of Spanish Com., page 178.) In Campeachy the manufactures are most extensive. (2 Hist. of Colombia.)

[9.] Among the other places is Switzerland, which, in 1831, consumed near 19 millions of pounds of raw cotton. (Baines, 526; see imports.) That country began to use machinery for cotton in 1798, but the progress has been slow, and the establishments are small,

though active. (London Encyclop., article *Cotton.*) Muslins have been made there, it is said, a century and a half. But, beside England and France, the cotton spun in the rest of Europe in 1823 was estimated at only 18 millions of pounds. (London Encyclop., article *Cotton*; see Table K, Note.) In 1834 it was estimated by Mr. Alexander that Belgium consumed $12\frac{3}{4}$ millions of pounds of raw cotton. (See Table, exports of manufactures and notes.)

[10.] The statements for 1833, 1821, 1811, 1801, and 1791, are generally computations made from other data as to the crops in the different countries named, which were grown and not exported, and the quantities of raw cotton imported into each; beyond this they are rather conjectures than estimates founded on very satisfactory facts.

[11.] The quantities computed to be manufactured in India and China are very large; but, perhaps, they are below rather than above the truth. (See supplement to Encyclop. Brit., article *Cotton;* and Tables A and F on growth of cotton and exports.) In the Indian Islands the most of their raw cotton is made up, though a little is exported to China. (3 Crawford's Hist., 350.)

[12.] A table is annexed of the consumption of raw cotton in all Europe, from 1831 to 1835, inclusive, compiled by Lambert and Co., of Liverpool, and distinguishing the estimated portion of it from this country.

Consumption of cotton in Europe, reduced to bales of 300 pounds.

1831, . . .	bags, . .	1,272,276, . . .	of which . .	928,520	American.
1832, . . .	" . .	1,372,079, ...	" . . .	1,015,280	"
1833, . . .	" . .	1,409,786, ...	" . . .	1,066,240	"
1834, . . .	" . .	1,502,559, ...	" . . .	1,205,048	"
1835, . . .	" . .	1,581,501, ...	" . . .	1,254,586	"

K. — Cotton, Manufactures of.

Years.	Whole value of, yearly.			Capital employed in manufacturing by machinery. [6]		
	In England.	In France.	In U. States.	In England.	In France.	In U. States.
	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.
1789						
1790						
1791						
1792						
1793						
1794						
1795						
1796						
1797						
1798						
1799						
1800						
1801						
1802						
1803						
1804						
1805						
1806						
1807						
1808						
1809						
1810						
1811						
1812						
1813						
1814						
1815	95?	–	24	–	–	40
1816						
1817	–	36				
1818						
1819						
1820						
1821						
1822	72					
1823	155					
1824	148 to 190					
1825						
1826						
1827	171	–	–	309?		

Years.	Whole value of, yearly.			Capital employed in manufacturing by machinery. [6]		
	In England.	In France.	In U. States.	In England.	In France.	In U. States.
	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.	Millions of dollars.
1828	–	40				
1829						
1830	–	–	{ 26 } { (40) }	325?	–	40¾ or 62
1831	–	–	–	216		
1832	144	54	–	160	–	44¾
1833	{ 178 } { (149) }	–	–	{ 360 } ? { 168 }	115	
1834	160½	62	–	250		
1835	–	–	45 to 50	185	–	80
[4] [5]	[1]	[2]	[3]	[7]	[10]	[8] [9]

[1.] The values in England, in the tables, are taken, for 1834, from McCulloch and Aiken, Edin. Rev., 472 (1835), and Baines, 412; for 1833, in 1st line, from Pebrer on Eng., page 314; for 2d line, for 1827, from Edin. Rev., page 22 (1827). The first edition of McCulloch agreed with Pebrer, but in the second edition he lowered the amount. (Baines, 398, and Note.) That for 1823 was by Mr. Huskisson. (Baines, 399.) That for 1824 is from Supplement to Encyclop. Brit., *Cotton.*

In McCulloch's Dict. of Com., and Baines, 406, and Pitkin, 486, it is computed that the present value of the cotton manufacture equals about twice the amount of it exported. It is said that only 37 per cent. is consumed of what is made. (Aiken's Lectures; see exports.) In 1766, England made about three times as much as she exported of cotton goods, though Edin. Rev., page 166 (1830), says she then made only one million of dollars' worth. (Do., page 18, 1827.) The estimate for 1815 is in Edin. Encyclop., article *Cotton.* The items for computing the value of the annual manufacture are given in Edin. Rev. (1827), page 22, and in Edin. Rev., page 472 (1835), and in Baines, 412.

In Scotland alone, it is said the manufacture of cotton, in 1835, equalled in value 11½ millions of dollars; but, in 1832, it was estimated by Kennedy at 12½, though prices higher; and in Ireland at 1⅓ millions of dollars. Baines, 409, thinks the exports are nearly that before-named from Scotland, and the manufacture double. (Page 410.)

[2.] The values in France for 1817 are too high, and that for 1828 too low, it is believed, but were extracted, the first from 2 Chaptal on

French Industry, page 150, and Sup. to Encyclop. Brit., *Cotton*, and the last from some author not remembered. Estimated at 111 millions of dollars by Mimerel, but too high. (Baines, 521.)

Those for 1832 and '34 are estimates made on the number of spindles, &c.

[3.] The value for 1830, in the United States, is from N. Y. Convention, and includes but twelve States, and no household goods; otherwise it would equal 40 millions. (Pitkin, 483.)

The whole value, in 1835, is my estimate from the quantity of cotton worked up, &c. (Pitkin, 482.)

The value for 1815 is by a committee of Congress, and is confined to goods made in factories. The whole value of cotton, woollen, and flax manufactures, in 1810, was computed at only 40 millions of dollars, the value of cotton alone in 1830.

[4.] The value of manufactured cottons, when the quantity of raw cotton in them is the same, differs greatly according to different periods of time in the same country, and according to the quality of the raw material, and the machinery used, and the skill employed. (See Table M, Note [2].)

Thus, in England, in twenty years after Arkwright's invention in spinning, manufactured cottons fell nearly eight-ninths of their former price. Every ten years since, some have computed their fall in price as equal to 50 per cent. In the American Encyclopedia, article *Cotton*, it is said that, from 1815 to 1829, the coarse cloths fell two-thirds. (See in Pebrer's Views of England, page 343, a table showing the fall there at different periods. See Table M, Note [3], on official and real prices at different periods.) In 1810, yarn, on an average, was worth $1.12½ per pound. (Report by Gallatin. See prices of other articles in his report.) In 1814 it was estimated under $1 per pound by Coxe. In 1832 it was said that the cost of making most species of yarn had been reduced, since 1812, about a half, and that of weaving by power-looms, &c., still more. (See Edinburgh Rev., 427 (1832), a list of prices.) Some of the differences as to the whole value of manufactured goods spring from not adverting to all the fall in prices, though the yarn and cloth have increased in quantity. (See a table of reduction in prices of spinning.) In 1786 it cost 10*s.* per pound of No. 100, in 1824 only 8*d.*, or only 16 cents instead of 240 cents. (Supplement to Encyclop. Brit., *Cotton.*)

[5.] The best cotton goods are supposed to be made in Switzerland, where the skill and machinery are good, and the climate congenial. But the raw material being carried so far by land is expensive, and the manufacturer cannot compete with England, though 20 per cent. cheaper than in France. (Baines, 524.)

In France many fine goods are made by skill and experience; but

the machinery is poorer, and costs more. (Edinb. Rev., page 61, 1829.) Hence the prices in those two countries of the cloth made from a pound of raw cotton exceed, on an average, 50 cents, while in England they are about 50 cents, and in the United States are now somewhat less. In 1806 the cotton was made chiefly into velveteens, nankeens, crapes, muslins, &c. (See, at length, London Encyclop., article *Cotton*.)

But in 1810 our cotton cloths made in houses and manufactories, on an average, were estimated at 33 cents per yard, in Coxe's tables, page 10. The prices are now lower, notwithstanding the introduction so extensively of finer cloths and of printing calicoes.

We make more coarse and substantial cloths of cotton now than England, and they can be afforded cheaper by two or three cents per yard. They are in greater demand abroad. (American Quarterly Review, 1834, page 256. 3 Parliamentary Reports, 1833, page 332.) We put more staple into them, the raw material being cheaper here. But the English laces, being made chiefly of Sea-island cotton, with a very little silk, enhance the value of each pound to over $5; and the whole manufacture of it equals nine millions of dollars per annum (McCulloch, page 743), and $30\frac{3}{4}$ millions of square yards.

The coarse India cottons are made of the worst materials and less smooth, being chiefly spun by hand, and the raw material poorer. (Baines.) But the thread so spun is softer, and the cloth more durable. (Report on affairs of India, 1832, appendix, page 310.) But the power to spin a fine thread there has been carried almost as far as in England. (See Table L, note [5].)

ON CAPITAL.

[6.] Capital invested is computed on very different principles and data by different persons, and the price of machinery has of late fallen much per spindle. (See notes on spindles.) In the computation of capital in manufacturing cotton, there is generally included only what is in factories.

[7.] The real capital has doubtless increased in England since 1827, though in the table there is an apparent diminution. That and other differences often arise from the estimates being made by different persons, and on data somewhat unlike, as well as from changes in the value of machinery, and in its increase.

The computation for 1827 is by the Edinburgh Review, page 22, 1827; that for 1830 is by some writer not noted; that for 1831 in first edition of McCulloch's Dictionary, Pitk. Stat., 486; for 1833, by Pebrer, page 315, in first line, and in second line by Baines, 415, and Edin. Rev., page 472 (1835), and second edition of McCulloch; and for 1834 by Aiken, who places buildings and machinery, or the fixed capital, at only about half the value of that in Edin. Rev. (1827), page 22, or at about 97 millions of dollars, instead of 181 millions.

	The ratio adopted for 1827 was —		for 1824 was —	
Capital in buying raw material,	£9	millions.	£4	millions.
Capital in paying wages, .	19	"	10	"
Capital in mills, machinery, looms, shops, &c., . .	37	"	20	"
	£65	"	£34	"

So Kennedy, in Baines, 413, differs again, making fixed capital only about 15 million pounds, &c. The present value of capital invested in buildings, water privileges and machinery, is often less than their original cost, and is another source of difference.

[8.] The capital in 1815, for the United States, is computed by a committee of Congress, and is not any too high. (Report, February 13, 1816.) That in 1830 is by the New York convention, and is correct according to the number of spindles compared with England and her capital, and is, in fact, at 40 million dollars for fixtures alone, and about 22 million dollars for the rest. Not too high. That for 1832 is from Reuss on American Trade, page 274. The whole capital here, in proportion to each spindle, is more for mills and machinery together than in England, and more for wages. Here is sometimes higher for additional machinery, and workmen for finer kinds of manufacture. The average value of her capital to each spindle, as computed by me for 1835, would be about $20 to each; which would, on the same data, make our capital then equal to $35 per spindle. But in the New York convention, in 1830, are given the details of their estimates, and the buildings and machinery alone cost here, on their computation, near $35 per spindle, and it requires to pay wages, furnish raw cotton and other materials, superintendence, &c., quite $11 more per spindle, making the whole $46 each, or now near 80 million dollars capital. In 1810, it was estimated that $60 per spindle was necessary. (See Coxe and Gallatin.) It is now $60 in some factories at Lowell. This agrees nearly with the older computations in England; and as goods become finer, and machinery still cheaper, in the United States, the approximation will be still closer. (See Table L, Note.) But another striking cause of difference arises from the kind of goods made here compared with England, requiring there less capital for machinery, looms, &c. Besides that, the spindles there are cheaper, and less capital is needed for workmen, when the number of spindles is the same, to tend power-looms, color and stamp dies, &c., in proportion, than in the United States. Because there, in 1833, only a little over one-half of the cotton spun was made into cloth in the factories, or only 76½ millions of pounds out of 145 millions of pounds. The rest was sold or exported as yarn and thread. (See Baines, 607.) And in another estimate, over one-half the

exports are in yarn. (See Table M, Note [1]. Baines, 409.) While in 1830, in the United States, the computation of yarn sold, compared with cloth made, was not one-tenth of the weight. In 1810 it exceeded one-half. (Gallatin.) Another cause of the difference is, perhaps, that much of the fine weaving of ginghams, muslins, and mixed cloths there, is done in hand-looms not belonging to the factories. (See Baines, 418.) In the computation before stated, of the capital per spindle for 1830, in the United States, it may be useful to exhibit it in another form. According to Pitk., page 482,

The capital in mills and fixtures was . .	$40 9/10	millions.
Do. in other machinery, about . .	4 1/10	"
Capital in mills and machinery, . . .	$45	"

Which, at 1¼ millions of spindles, is about $35 to each.

Capital floating or circulating, in paying wages, was near	$12	millions.
Capital circulating in buying stock, &c. . .	2	"
	$14	"

About $11 more per spindle, or $46 for every spindle.

The valuation placed on machinery should now be less, though most of that in use cost high. (See spindles.) The English proportion now is about $12 capital per spindle invested in mills, machinery, and all fixtures connected, or not much over one-third the proportion here. But it is about $8 to each spindle in the floating capital for wages, stock, &c.; or over two-thirds the proportion here. More of their fine spinning is also done on the mule spindle, which costs but little over half what the throstle spindle does, and which last has been equally as much used here as the other, and of late years, it is believed, far more than the other. In 1831, in England, in Lancashire, the number of mule spindles was more than 12 times that of the throstle. (Baines, 209, note.) Her capital in mills and machinery alone is said not to exceed $4.16 to each spindle. (See Baines, 414 and 368.) But that must exclude water privileges and steam-engines, probably, and all looms, out-houses, shops, &c., and refer chiefly to the mule spindle.

In 1824 it was considered in England that we employed too many persons and too much capital per spindle. (Sup. to Encyclop. Brit., art. *Cotton.*)

[9.] The advantages of different countries for the cotton manufacture depend, in a great measure, on their natural condition, long

habits and laws. England is superior to most in the abundance and cheapness of iron for machinery; in coal for warming buildings and moving steam power; in suitable climate; ingenuity, experience and skill of mechanics, from great division of labor, &c.; in greater commerce to find best markets; capital at low interest, and wages not high; and property secure. But taxes there and raw material are high, and living is more expensive than in some other places. (Edin. Rev., 1835, page 466. McCulloch, 446.) A great increase is supposed to have taken place the past year in erecting cotton factories in England.

The United States, by numerous and cheap waterfalls, have a good substitute for steam, and will soon have coal as low for warming; have equal ingenuity, and probably now superior merit, in machinery; but iron and coal are dearer, and raw material and living both lower, and property as secure; wages and capital higher; much less taxation; and a protective tariff. It is said in Amer. Encyclop., art. *Cotton*, that the introduction of the power-loom in 1815 has given great permanency and prosperity to our cotton establishments. See Table L, notes to spindles, and notes above, in this table, for something more on England and the United States.

As to France, Switzerland, India, &c., it is not necessary nor convenient here to enter into details beyond what is stated in other parts of these notes. But it may deserve notice, that the increase in the use of raw cotton has been at a much more rapid rate in England than in France. (Edin. Rev., 1832, page 433. See Baines, 525 and '6, and 515, on these points. See Table I, Note. See below, Note [11].)

The value of cotton manufactures in England is, comparatively, equal to two-thirds of all her public revenue, and to nearly all her exports of other articles. (Table M, Note 3.) In 1797, the cotton manufacture, it is said in Seybert, page 92, took the lead of any other in England. But in 1816 she consumed no more raw cotton than the United States do now.

[10.] The capital of France invested in cotton manufactures is given for only one year, and computed at a medium between $20 per spindle, as in England, and $46 per spindle, in the United States. As I have no French estimates on this subject beyond the data given in Baines and other authors, as to the number of spindles merely, and their cost at different periods, the computation has not been extended to other years. Baines, 517 and 518, gives estimates showing that France requires 28 per cent. more capital than England, to produce the same manufactures, according to some persons, and according to others 75 per cent. But Dr. Bowring estimates the difference at about 30 to 40 per cent. (Baines, 520.)

[11.] The subject of wages in the different kinds of manufacture, and in different countries, has not been discussed in detail. But see

n it Wade's Hist. of Mid'g Classes, 570 to 576. It may be interesting to many to know that the average wages in 1832, in the United States, of all employed in a cotton factory, were about 14*s.* 11*d.* sterling per week; in England, about 10*s.*, sometimes 12*s.*; in France, only 5*s.* 6*d.*; in Switzerland, 4*s.* 5*d.*; in Austria, 3*s.* 9*d.*; in Saxony, 3*s.* 6*d.*; and in India, from 1*s.* to 2*s.* per week. (Ditto, page 576, and Westminster Review for April, 1833.) In Niles' Register, November, 1817, page 156, it is said to be only two cents per day in India; but that is probably too low.

L. — Cotton, Manufactures of.

Persons employed, connected with factories chiefly — number of.				Spindles employed in factories — number of.			
Years.	In England.	United States.	France.	In England.	United States.	France.	Switzerland.
1750	20,000						
1760	16,000?						
1770	30,000						
1784	80,000						
1787	162,000 to 260,000						
1789	–	–	–	49,500			
1790	–	–	–	–	70		
1791							
1792							
1793							
1794							
1795							
1796							
1797							
1798							
1799							
1800							
1801							
1802							
1803							
1804							
1805	–	–	–	–	4,500	Mill. 1/12	
1806	–	–	120,000	–	–		
1807	–	–	–	–	8,000		
1808							
1809	800,000?	–	–	–	31,000		
1810	qe.	–	–	–	87,000		

Persons employed, connected with factories chiefly — number of.				Spindles employed in factories — number of.			
Years.	In England.	United States.	France.	In England.	United States.	France.	Switzerland.
				Millions.			
1811	–	–	–	5	80,000? query.		
1812	–	–	–	4½?	–		
1813	–	–	–	query.			
1814	–	–	–	–	122,646		
1815	–	100,000	–	–	130,000		
1816	–	–	–	6⅔			
1817	–	–	–	6⅔			
1818	–	–	–	–	–	1 2/10	
1819							
1820	–	–	–	–	220,000		
1821	–	–	–	–	230,000		
1822	427,000						
1823							Million.
1824	–	–	–	6?	–	–	¼
1825	–	–	–	query.	800,000		
1826							
1827	705,100 to 1,000,000						
					Millions.		
1828	–	–	–	–	1¼ to 1		
1829	–	–	–	7			
1830	–	179,000 175,146	–	–	1⅓		
1831	–	200,000	200,000	7½ to 8½			
1832	1,200,000	–	–	–	–	3⅓	
1833	1,500,000						
1834	–	–	600,000	9⅓			
1835	–	–	–	–	1¾		
	[1] [2]	[4]	[3]	[5] [6] [11] [12]	[9]	[7]	[8] [10]

[1.] The early computations of the number of persons employed are very loose and contradictory. That for 1750 is from Smithers' History of Liverpool, page 154; that for 1760 and 1770, by Edinburgh Review (1827); for 1784, by Smith and Baines, 218. The more recent estimates for 1809 are too high, and are by Seyb., page 92; and for 1827, in second line, are from Edin. Rev., page 13 (1827), and page 427 (1835); and McCulloch, 443; and Baines, 431. The last make the actual laborers only 900,000. As the cloth

made is finer, more persons are required to a given number of spindles. So if it is stamped or printed. (See below.) It is computed that, in ten years after machinery was introduced into the manufacture of cotton, the number of persons employed in it was still augmented ten-fold; some have said forty times, which is too high. But, if no machinery had been used in 1826, beyond what was used in 1760, it would have required from 42 to 53 millions of persons to perform what was then done in the cotton manufacture. (Quar. Review, 1826, and Browning's Great Britain, page 232.) They say one man now equals, by machinery, 120 in A. D. 1780, or 200, according to Kennedy, cited in Edinburgh Review, page 18 (1827); Smithers, 127: or, in 1815, one equals from 40 to 60 (Edinburgh Encyclop., *Cotton*). In 1833, Pebrer, page 314, estimates that 80 millions of persons would be needed in the cotton manufactories, without machinery. See, on some of above, London Encyclopedia, article *Cotton*, printed 1829, and in Edinburgh Encyclopedia, article *Cotton* (1815), where the number of persons employed is estimated at one million; but too high. (See below, Note [11].)

[2.] In Spain, in 1803, it was computed that 6792 persons were employed in the manufacture of cotton goods (1 Dict. of Span. Com., 65); and, in Switzerland, in 1831, about 28,000 persons. (West. Rev. for April, 1833.)

[3.] The number in France, for 1834, is from Baines, page 521. Many there engage in agriculture a part of the year, as in India. The number for 1806 is from data in London Encyclopedia, article *Cotton*, and supplement to Encyclop. Brit., *Cotton*, where, in twenty-two departments, the number of persons engaged in spinning is said to be 28,460, and in weaving 31,107 persons, and the spindles 800,724. These must include most in France; and the other persons incidentally engaged must be almost double, to constitute the recent number of six or seven persons to a spindle in making fine and colored cloths. The number for 1831 is from the West Rev., April, 1833, page 397.

[4.] In the United States, the estimate for 1815 was made by a committee of the House of Representatives, February 13, 1816. The number includes all engaged in the manufacture, or in making the mills, machinery, &c., and not those alone inside of the mills. These last, in 1832, were computed by Reuss on Am. Trade, page 274, at only 28,683, but by McCulloch's Dictionary, page 448, at 57,466. In 1830, by New York convention, at 57,520, and dependants at 117,626 persons, or 175,146 in all, as in second line of the Table.

[5.] SPINDLES. The spindle is the most convenient article in the cotton manufacture by which to calculate the extent of it. The power of any one establishment, its cost, the number of persons employed,

the quantity of raw cotton consumed, the yarn or cloth made, and most other important results, can, by the help of a few general data, be very nearly deduced from the number of spindles.

On the great gain in substituting for the distaff and the spindle, used by hand, the present machinery for spinning, and other processes to complete the manufacture of cotton, whether moved by horse-power, water or steam, some illustrations have already been given in the first Note to this Table, and in Table K.

With a view to furnish a few more details, which may possess some usefulness and interest, it may be remarked, on the power of the spindle, that, by improvements in machinery, it is said that one now sometimes revolves 8000 times in a minute, instead of only 50 times as formerly, and that one will now spin, on an average, from one-sixth to one-third more than it did twenty years ago (below, Note 12). Indeed, in 1834, it is said that one person can spin more than double the weight of yarn in a given time that he could in 1829. (Senior's Outline of Political Econ., page 198.) The quantity of raw cotton spun by one spindle depends, of course, on the fineness of the thread, and quality of the machinery. In England, where a considerable portion of the yarn is finer, the average is about 8½ ounces weekly, or from 27 to 28 pounds yearly (McCulloch, 441, Note); while the average in the United States is about 50 pounds yearly of yarn number 20 and 25 in fineness, and about 26 pounds of number 35 and 40. In 1808 the average was computed at 45 pounds per spindle of cotton yielding 38 pounds of yarn. (Report to Congress, 1810.) The difference in weight between the cotton and the yarn, by loss from dirt and waste, is usually estimated from one-twelfth to one-eighth. (Baines, 376.) At Lowell 100 pounds of cotton yield 89 pounds of cloth (Lowell Statistics, 1836), though the average here used to be estimated at only 85 pounds (Niles' Register, 1827, page 211), when cotton was not so well cleaned, and machinery less perfect. One spindle at Lowell produces, through looms, &c., on an average, $1\frac{1}{10}$ yards of cloth daily; but this result must differ greatly with the fineness of the thread, excellence of the looms, width of the cloth, &c.

In 1830 it was computed that 37 spindles were necessary to supply one loom; though in 1827, at Lowell, the actual proportion was only 26; at Exeter, in 1831, it was 29; and now at Lowell it is 31. The number of looms in England in 1832 was only one to about 40 spindles, so much more yarn is made and not woven there (McCulloch, 441), and those were mostly hand looms. But in 1834 the number of them was about 100,000 power-looms and 250,000 hand-looms, or, in all, about 1 to 30. (Baines, page 237.) One loom formerly wove daily about 20 yards of cloth of the ordinary seven-eighths width, more of the 26 inches in width used for calicoes, and less of the five-quarters wide. The average now is from 30 to 40 yards of No. 20. At Lowell, in 1835, it was 38 to 49 yards of No. 14, and 25 to 30 yards of No. 30. It requires from 4 to 5 yards of cloth of Nos.

20 to 25 yarn to weigh one pound, and five to six yards of Nos. 35 and 40.

The power of the spindle, as connected with the number of persons actually employed in factories, is, that in making plain cloth of ordinary width and fineness, one person is needed to conduct all the business, from the raw cotton to the finishing of the cloth, for every 20 spindles. If the cloth be colored and printed, or stamped, one person will be wanted for every seven spindles. This would be about 250 persons for all purposes in a factory of 5000 spindles, making plain brown cloth. One person can manage from two to three power-looms.

The proportion of spindles to a factory was formerly very small, both in England and this country. Before 1806, it was only one to two hundred sometimes, and seldom exceeding 1000. Soon after that, some mills were built containing 4000 spindles. The average in new mills is now from 5000 to 6000. In Lowell, 1836, in 27 mills, they have 129,828 spindles, or a little under 5000 to each, though they print, &c., in some.

A factory with 5000 spindles must be about 155 feet long and 45 wide, four stories in height, and contain about 140 looms, with other suitable machinery for picking, warping, sizing, &c. Such a one, with a few shops and out-houses appurtenant, and land and water privilege, would cost from $140,000 to $220,000, according to the materials for building, whether wood, brick, or stone, and the distance from navigable waters, so as to affect cost of privilege, freight, &c., with other circumstances too numerous for recital. If bleaching or printing cloths be added, more expense will be necessary, and more persons than 250, the average for such an establishment, including machinists.

This would be a permanent investment of capital in buildings, water-power, machinery, and all appurtenances, equal to $28 or $44 per spindle, independent of the temporary investment of capital to buy raw cotton, pay wages, &c. It would oftener reach, and even exceed the latter sum, than only the former. (See Table K, on capital.) In 1810, it was computed that the capital actually invested in machinery and real estate averaged $60 per spindle. (Report of 1810.) It is not proposed here to go into any comparisons of this expense now with former periods, or with other countries, except in regard to the spindle alone, and the machinery as a whole. For the rest, see Table K.

In 1806, when machinery could not by law be exported from England, and the machinists here were unskilful and few, the spindle and its appurtenances, from the picker to the loom inclusive, it is computed, cost $30 each; or 300 to 400 per cent. higher than it cost at that time in England, and over double its present cost in the United States.

The great fall in its cost and value since, with various improvements in machinery, has been the cause of much loss to many capitalists employed in the manufacture. By A. D. 1820, the machinery cost only about double its then value in England. In 1826, the machinery was made here, on an average, for about $14 per spindle, and though

now lower, it still costs from 40 to 60 per cent. more than in England. The whole machinery there and the mill cost only $4.16 per spindle. (Baines, 368, 414.) But that includes, probably, no looms, &c., and merely the building, without the water or steam power; and the mule spindle, moved by hand, and costing less than half what the throstle spindle costs, and which is chiefly in use here. In France, in 1832, the spindle alone, which is about half the expense of all the machinery, cost $8. It used to cost there $10. (See Hocklin's Evid.) Now the spindle alone costs here about $4½, if of the throstle kind, and $2½, if of the mule kind. In some places in the United States, five per cent. higher. The former alone cost here, late as 1826, it is said, $8 each. The spindle used in the filling frame quite extensively at this time costs about $6.

These may constitute useful and sufficient data for further computations. As a matter of some curious interest, it may be added that *one pound* of cotton usually makes 8 yards of coarse muslin, and is then increased in value from the raw cotton eight-fold. But, if spun into the finest yarn, it is worth five guineas, and in 1780, if woven into muslin and tambored, was worth £15. (5 Anderson's History of Commerce, 878.) It may now be converted into a piece of lace worth 100 guineas. (Senior's Outline of Political Economy, 162, 178.) In India, in 1786, they could spin cotton threads over 115 miles to the pound; in England they have since been spun 167 miles long from a single pound. (Baines, page 59. Niles' Register, page 181, March 24, 1821.) One pound of cotton spun into No. 100 yarn extends about 84,000 yards in length. (Smithers' History of Liverpool, page 127.) The yarn spun yearly in England would reach round the globe 203,775 times, or over 600 times each day. (Baines, 431.)

They use flour for sizing, &c., in cotton manufactures, — 42½ pounds to each spindle per annum, or four pounds weekly to each loom. In this country but one pound weekly to each loom. (McCulloch, 448, as to report of 1832.) But at Lowell, 3800 barrels to 4197 looms yearly, or near four pounds each per week. In England three times as many spindles and factories are moved by steam as by water. (Edin. Rev., page 472, 1835.) In the United States not one in a hundred factories is moved by steam. The power to move all the cotton mills in England equals that of 44,000 horses, of which only 11,000 is by the water-wheel. (Baines, 395.) In 1824 the whole power was estimated at only 10,572 horses. (Sup. to Encyclop. Brit., *Cotton.*) Each factory of common size and employment requires from 60 to 80 horse power here, or about 11½ horse-power to 1000 spindles.

[6.] For the number of spindles in England in 1789, see Smithers' History of Liverpool, page 124; for 1812, Edinburgh Encyclop., article *Cotton;* for 1817, Edinburgh Rev. (1827); for the rest, 1811 and in 1824, Sup. to Encyclop. Brit., article *Cotton;* and the others, Baines' Hist., 368, and McCulloch, 441, &c. The above numbers

include Scotland. The first cotton-mill built in Ireland was in 1780. (London Encyclop., article *Cotton*, and Sup. to Cyclop. Britan., *Cotton*.) In 1824 Ireland had 145,000 spindles. (Sup. to Encyclop. Britan., *Cotton*.)

[7.] For 1812, in France, see Qu. Rev., page 397 (1824–5), and French Industry, by Chaptal, page 15, who says they then spun only about 30 millions of pounds; this was a large number for the cotton spun, as the spindles were poor and imperfect. For 1832, see Nicho. Koechlin's evidence before the Chamber of Peers; that is, from one-half to one million too high, as grounded on an English estimate, which was too large, too many for the quantity of cotton spun; for 1818, from 2 Chaptal, page 145, who makes 220 factories. Very little spinning by machinery in France till after 1785. (Quarterly Rev., 394, 1824–5.) First in 1787 (Sup. to Cyclop. Brit., *Cotton*), though cotton had been spun on wheels since 1767. (See 2 Chaptal's Industry of France, page 4.) And the cotton cloths were chiefly made from thread or yarn imported from England, Switzerland, and the Levant. There were large numbers of cotton pocket-handkerchiefs made at Rouen, Montpelier, &c., early as 1789. (2 Chaptal's Industry of France, page 4.)

France had, in 1818, 70,000 looms for cloth, 10,500 for spinning hosiery. (2 Chaptal on French Industry, page 150.) But his estimates on all these subjects are considered high. In 1806, her looms for cloth in twenty-two departments are stated at only 28,634. (London Encyclop., article *Cotton*.) In 1806, the estimate as to the number of spindles is from the London Encyclop., art. *Cotton;* it is increased a little for the rest of France not included in the above article, and is about one spindle to 25 pounds of raw cotton spun that year, which is a fair proportion, when the goods made are fine, and the machinery is not of the best quality. (See note above, and Supplement to Encyclop. Brit., art. *Cotton*.) Power-looms are not much used yet in France. (West. Rev., Ap. '33.)

[8.] Some spindles and looms moved by machinery have been introduced into India, but most of the cotton manufactured there is by women and in households; the men who aid in weaving are also often laborers on the land. (Report of the committee on the affairs of the East India Com., App., 310, 1832. Wade on Midd. Classes, page 576.) Yarn is often imported from England, it is there spun so much cheaper by machinery. (Smithers, 127.) So in Saxony, Russia, &c. (Supplement to Cyclop. Brit., *Cotton*.) In China, it is said, cotton-mills with spindles, &c., have been forbidden. In Egypt, they have been introduced, but do not succeed well, from the dryness of the air, its impurities by fine sand, and want of skill (Hodgden),* but they

* See Gliddon on cotton in Egypt.

are still used by the government. In Spain, in 1802, were 3705 workshops for cotton, or small manufactories, and 1494 looms. (1 Dict. of Com., 65. 3 do., 198, larger.) In Switzerland, the first mill with machinery was built in 1798; London Encyclop., art. *Cotton*, where is some notice of a few spindles in other parts of Europe, namely, Saxony, Russia, Prussia, &c. So in Sup. to Encyclop. Brit., *Cotton*, and in West. Rev. for Ap. 1833. The number in the table is from Sup. to Encyclop. Brit., *Cotton*.

[9.] The number of spindles in the United States can be computed from the data before given. For those before 1835, see Pitk. Stat., 526, and McCulloch, page 448, and Reuss, Am. Tr., 270. Those for 1809 and 1810, the last too high in his table; see Gallatin's Report for the number in 1807 and 1811. Those at some other dates are from manuscript. (Gales and Seaton's Documents, 2 Finance, page 432.) Those for 1814 are from Cox's tables (ditto, page 694, and Seybert Statistics, page 7), and were returned between 1810 and 1814. For 1820 and 1822, Niles' Register, page 35, March, 1823. Those for 1835 are estimated by me on former data. In 1810, Cox, in his tables, returns 269 mills, but too many, if over one-eighth of them were for cotton. Very few spindles were in each of those built before 1807 and '8. The spindles in 1830 are from the manufacturers' convention, and only twelve States, but included most of the manufactories. Those had 33,506 looms, to about 1¼ millions of spindles, or near 1 to 40. At Lowell, 129,828 spindles exist, to 4197 looms, or 1 to 32. This is near one-thirteenth of all the spindles in the United States. (Lowell Statistics, 1836.) The first mill built there was in 1822, and in 1826 only 2500 spindles. (See Boott's letter to Carey.) About 78,000 spindles a year should be added here, to make cotton cloth sufficient to meet the demand of the present annual addition to our population. The spindles have increased somewhat faster than that ratio, the last five years, and have increased beyond the exports of cotton goods. Of the number of spindles here at different periods, in factories, those in 1790 or 1791 were in one mill at Providence, erected by Slater and Brown; those in 1805 were mostly, if not all, in Rhode Island, and two in Massachusetts, and only eight or ten mills. One was begun at New Ipswich, in New Hampshire, as early as 1803, it is believed; and one or two in Massachusetts, and one in Connecticut, before 1808, one near Philadelphia before 1798, — making, in all, at that time, 15 mills. Of the spindles in 1815, about 118,000 were in the same State. (Gallatin's Rep., 1810; New Hampshire Gazetteer, article *New Ipswich*.) The Waltham factory, in Massachusetts, was not erected till 1810 or 1814, and has since devoted much capital to making machinery. There was a great increase in 1806 and '7; again during the war of 1812; again from 1820 to 1825; and in 1831 and '2. If prices continue high as the past year, and the raw material falls, or is stationary, the new markets

in Asia and increased demands in Europe and America, by increased use of cotton and increased population, will enlarge the number of factories here; but it is very easy, with our extensive water-power and cotton-lands, to overstock the market.

It seems that two machines for spinning and carding were, with much difficulty, obtained in this country, at Philadelphia, early as 1788. One carded 40 pounds of cotton a day, and the other had 50 spindles; and the growth of cotton was urged on the Southern States, and the use of these machines in families recommended. In 3 Carey's Museum, see the description more at large. In 5 Carey's Museum (A. D. 1790), it is said a model of a cotton mill and machinery, &c., as used in England, had been obtained at Philadelphia, by the society for promoting manufactures and useful arts. It would seem that T. Cox, Esq., took an active part in urging the cultivation and manufacture of cotton on the country, early as 1787. (Rees' Encyclop., art. *United States*, and Gales and Seaton's Doc., page 676, vol. 2, of Finance.) The English prohibited the export of the cotton machinery, as well as the emigration of their mechanics, under such penalties as delayed the introduction of it here, and caused the price of machinery for many years to be so high here as to retard and almost defeat successful competition. (See before.)

[10.] For a detailed account of the different kinds of machinery used in the cotton manufactories, the inventors of them, improvements in them, &c., see London Encyclop., art. *Cotton*, and same article in the New Edinb. Encyclop., and supplement to Encyclop. Brit., *Cotton*.

[11.] The change of late years, in some places in England, from the hand to the power loom, has caused some distress, and the employment of a larger portion of females and children; now about one-fifth there are men, one-third women, and the rest children. (Wade's Hist. of the Middling Classes, pages 570 and 571.) The number of hand-looms in England, in 1820 and 1830, was about the same, namely, 240,000; but that of power-looms had increased from 14,000 to 55,000. Each of the latter performs as much as three of the former. (Wade 261. Parliamentary papers in 1830.) In 1834 the power-looms had become 100,000. (Baines, 237.)

[12.] The American throstle spindle revolved 7500 times before 1833, though it used to run in England only 4500, and afterwards only 5400. (West. Rev. for April, 1833, page 403.) Machinery and skill and the raw material have so improved, that where some years ago the threads broke at the rate of 13 per cent., they break now only 3 per cent. (Do.) Many modern improvements in machinery in England are from America. (West. Rev., Ap., 1833.)

M. — Cotton, Manufactures of.

Values of exports of their own, from ——, in millions of dollars.

Years.	England.		France.	Germany.	Spain.	Turkey and Africa.	India.	United States.	China.
	Official value.								
1789	6								
1790	8								
1791	9								
1792	9⅔								
1793	8								
1794	11								
1795	11⅔								
1796	15½								
1797	17								
1798	17								
1799	28								
1800	26½								
1801	33								
1802	37		–	–	–	–	20		
1803	34		–	–	5				
1804	41								
1805	45								
1806	50		–	–	–	–	–	–	4
1807	48								
1808	61								
1809	92								
1810	90								
1811	68								
1812	78								
1813	–		–	–	–	–	18		
		Real or dec. value.							
1814	84	95							
1815	106	98							
1816	86	74							
1817	101	76							
1818	98	89½							
1819	88½	70							
1820	107½	79	–	–	–	–	–	–	3
1821	113	77							
1822	128	82							
1823	137	82½	4½						
1824	143	86	6½						
1825	135	86							

Years.	England.		France.	Germany.	Spain.	Turkey and Africa.	India.	United States.	China.
	Official value.	Real or dec. value.							
1826	119	71½	–	–	–	–	–	1 1/10	1¼
1827	157	83½	–	–	–	–	–	1 1/10	
1828	159½	81	–	–	–	–	–	1 1/10	
1829	197	83½	4½	–	–	–	–	1¼	
1830	188	81	10	–	–	–	–	1⅛	
1831	208	83	10½	–	–	–	–	1 1/10	
1832	209	83½	10½	–	–	–	–	1 2/10	
1833	222	88¾	11	–	–	–	–	2½	
1834		98½	10	–	–	–	–	2 2/10	
		(88)							
1835		88½							[8] [9]
[1]	[2]	[3]	[4]	[9]	[5]	[10]	[6]	[7]	[11]

[1.] The exports of English manufactures in 1833 and '4 were about one-third in *value* in yarn. (See Edinburgh Review, 427, 1835, Baines' and Official Reports. See Table K, Note on capital.) Some years yarn constitutes one-half in *weight*.

From 1814 to 1823 inclusive, the value of yarn exported, compared with the value of other cotton goods, increased slowly, from being about one-seventh and one-sixth, to be about one-fifth. (London Encyclopedia, article *Cotton*.) The proportional increase of yarn has been even greater since. (See Parker's speech in Parliament, February, 1836.) The yarn exported is understood to be generally coarse; between Nos. 18 and 40. From half to three-quarters of the *lace* made is exported chiefly to the continent. It is mostly made of Sea-island cotton, and equals near 9 millions of dollars in value yearly. (McCulloch, page 744.)

[2.] The difference between the official value on exportation and the declared value is given above. But the declared, or what is sometimes called the real value, in the 2d column, is still usually from 2½ to 5 per cent. under the actual market value. (Baines, page 408.) The *official* value is founded on the quantity, computing the price as it was about the close of the 17th century, or A. D. 1689. The market value has changed more from the official in some articles than in others, *e. g.*

In 1829, calicoes, plain, per yard,	. .	1*s.* 3*d.* official.
" " " " "	. .	0 6 real.

In 1829, calicoes printed per yard,	.	.	1*s.*	6*d.* official.
" " " " "	.	.	0	8¾ real.
" cotton yarn and twist, per cwt.,		£10	0	0 official.
" " " " "		7	5	0 real.

(Baines, page 351.) See more on prices of manufactures, Table K, Note 1.

The sum entered for 1835 is only for the year ending 5th January, 1835, and not any subsequent; and the second sum for 1834 is for the year 1834 only to 5th January, while the first sum for 1834 is probably for the whole fiscal year. Some discrepancies occasionally arise by the statements being made with different terminations for the year, as some end in April, and some in January, &c. (See returns.)

[3.] The exports of cotton manufactures from England are now, and for some years have been, nearly equal to one-half of her exports of every kind. The above sums for England are from Baines, page 350. The records for 1813 and before that, for the declared value, were burned. Those sums do not include Ireland, amounting from one-tenth to three-tenths of a million yearly. Aikin says 63 per cent. of what is made in England is exported, and Edinburgh Review, page 472, says, in 1833, that the exports from England were about 18½ million pounds sterling, and consumption about twelve and one-tenth million sterling. (See for 1831, '2 and '3, McCulloch, 675.)

[4.] The exports from France in 1823 and '4 are from 2 Dictionary of Spanish Commerce, page 148. In 1829, from Edinburgh Review, page 62 (1829). In 1833, from Baines, 525, note; and in 1831 and '2, from the French tables of commerce, with a slight addition or variation, it is believed, in some cases, in the value of the franc. In 1830, from Westminster Review, April, 1833, and Wade on working classes, 575, and that seven millions were printed goods.

[5.] Those from Spain in 1803 were chiefly from her possessions in India and America. (Dict. of Spanish Com.) Spain of late imports largely of cotton manufactures. (See Table O, Note 1, and Table N.) The Moors introduced this manufacture into Spain early as the 9th or 10th centuries. (Baines, page 38.)

[6.] Those from India are estimates, and might be extended, from the following data. Her islands and she have long had a domestic trade in cotton goods. (3 Crawford's Hist. of Ind. Archip., 350.) It then spread to other parts of Asia, to the eastern coast of Africa, and next to Europe.

India in 1813 exported to England alone 10 millions of dollars' worth of her cotton goods, and now imports as much from England. (Montgomery's Anglo. East. Emp.) But she still exports certain kinds to England, valued in 1831 at about 2 millions of dollars, in

1832 at 1½ millions, and in 1833 at 1 million. Some of these are reëxported. (McCulloch, page 672 and 676; Evid. on East Ind. Comp., page 310, App.) In 1802, '3, and '4, the United States imported cotton goods of India origin worth nearly 3 million dollars per year. (Seyb., page 218.) Hence the exports of cotton manufactures from India formerly were large. But they have fallen off greatly, and especially since 1816, to the United States. (Pitk. Stat., 188 and '9.) She often exports raw cotton of late years, instead of cotton manufactures. (Supplement to Encyclop. Brit., *Cotton.*) See Seyb. Stat., page 289, on our whole imports thence in 1814, and chiefly cottons. See above.

[7.] Those exports from the United States are from official tables. They doubtless would have increased much more rapidly, had the demand for them at home not been so great, by means of their good quality, cheapness, and our increasing population.

[8.] The whole exports of cotton goods from China to England and her dependencies, in 1832, were valued at about ¼ million of dollars. McCulloch, 237, article *Cotton*, and page 240, where is given the pieces of nankeens so exported from 1793 to 1831, which alone, at 50 cents each, would range from $\frac{1}{20}$ to ½ million of dollars yearly. In page 813, he thinks the exports of nankeens have been on the increase to different quarters.

From China the exports of cotton goods consist chiefly of chintzes and nankeens, and the amounts in the table are estimates. The former have greatly diminished, of late years. (Supplement to Encyclop. Brit., *Cotton.*) She imports now both English and American cotton goods. (See exports of them, Tables N and O.)

In 1802, '3, and '4, the United States alone, it is estimated, imported Chinese cotton goods valued from 1 million of dollars to 1½ millions yearly. (See official returns of all articles imported from China, Gales and Seaton's Doc., page 599, in 1 vol. on Com. and Nav.) Formerly the United States imported largely of nankeens, so as some years to export $\frac{1}{100}$ million of dollars of them, as in A. D. 1792 (Gales and Seaton's Doc., page 144, vol. 1, Com. and Nav.). But our official returns since, as well as before 1821, do not discriminate the cotton goods imported. From 1818 to 1827, they fell off from about 1 million to ¼ million. (Pitk. Stat., 305; McCulloch, page 242.)

[9.] The exports of cotton goods from Germany are chiefly by land, and not extensive. This trade could not have existed at all formerly, and the estimates are too uncertain for much reliance.

In and near Vienna are established considerable cotton manufactures by machinery. (Supplement to Encyclop. Brit., *Cotton.*) According to McCulloch, Dict., page 448, the cotton exports from Austria

are chiefly in yarn. They are on the increase. (See Wade on Working Classes, page 576.)

[10.] From Turkey, including the products of Smyrna and the neighborhood, as well as Barbary and Morocco, there have been frequently exported, in former years, various articles of cotton manufacture, but not of great value as a whole. This manufacture was introduced into Turkey in Europe, in the 14th century, by the Turks. Some cotton cloth was imported from the coast of Africa to England about the close of the 16th century. The growth and manufacture of cotton were diffused much by the Mahometan conquests. (2 McPherson's Com., 193; Baines, 32.)

[11.] The barrenness of this table is another illustration of the small extent in the foreign trade of cotton goods, except by England, France, and the United States. It presents also a singular illustration of the recent date of their progress in it, and of the difficulty in knowing much of the ancient or later business of India and China in this branch of their trade with such accuracy as to deserve reliance; though more leisure might probably have enabled me to present some more statistical facts on that subject than I have yet met with. See the diffusion of this manufacture by the Mahometans from Arabia, &c., Note (10) in this table, and (5).

In 1825 the Dutch exports and imports at Japan are given (McCulloch, page 812), and the former as well as the latter contained a few cotton goods, from $5000 to $8000 in value.

N. — Cotton, Manufactures of.

Exports of their own, — to what places, — values of in millions of dollars.

Years.	England to United States.	England to France.	England to Germany.	England to Netherlands.	England to India and China.	England to South America and Mexico, except Brazil.	Various places to Spain.	Various places to Russia.	England to Brazil.
1789	—	½							
1790	—	1/10							
1791	—	½							
1792	—	¼							
1793									
1794									
1795									
1796									
1797									
1798									
1799									

Years.	England to United States.		England to France.	England to Germany.	England to Netherlands.	England to India and China.	England to South America and Mexico, except Brazil.	Various places to Spain.	Various places to Russia.	England to Brazil.
1800										
1801										
1802										
1803	–		–	–	–	–	–	20		
1804										
1805	Om.	Real or dec.								
1806	17	21								
1807	17	21								
1808	11	14								
1809										
1810										
1811										
1812	–		¼ to ½			9				
1813										
1814	–		–	–	–	¼				
1815	–		–	–	–	[illegible]				
1816	–		–	–	–	[illegible]				
1817	–		–	–	–	2				
1818	–		–	–	–	3½				
1819	–		–	–	–	2¼				
1820	–		Whole sum. 8,700	20	5	4	–	–	$4\frac{9}{10}$	
1821	Real or dec. $6\frac{8}{10}$		8,500	18	5	5¼				
1822	$8\frac{2}{10}$		18,000	19	5½	5½				
1823	7		22,000	14½	7	6				
1824	$7\frac{8}{10}$		55,000	13½	6½	5¾	–	–	$2\frac{7}{10}$	
1825	11		57,000	15½	7	5½				
1826	6½		119,000	14	6	5¾				
1827	8		122,000	14¾	6¾	9½	5½			
1828	8¾		110,000	13¾	6¾	–	5¾			
1829	6½		122,000	14½	6¾	–	7¼			
1830	$6\frac{2}{10}$		50,000	14	6	–	8¼			
1831	13		240,000	11¼	6½	9¼	7¼ [7¾]	–	–	3⅓
1832	$8\frac{1}{10}$		318,000	15¾	8⅓	8⅔	6⅓	–	6	6⅓
1833	$6\frac{3}{10}$ [or $8\frac{3}{10}$]		450,000	14½	$9\frac{1}{10}$	8	6½	–	6½	8
1834	$8\frac{2}{10}$		730,000	15¾	10	7⅓	8	5	6	7¼
1835										
[1] [3]	[10]		[4]	[9]	[2]	[5]		[6]	[7]	[8] [9]

[1.] This table shows chiefly the exports of cotton goods from England to different places, and from 1820 to 1833 the values are mostly taken from official documents. (Porter's Tables, 161–7, page 300.) The statements in different books sometimes differ, from referring to different terminations of the year.

[2.] Since 1832 Belgium has taken, in that year and 1833, about 1½ millions of the amount of what is placed to the whole Netherlands from England. In 1834, it is said by Alexander, she imported of cotton goods, from all places, about 2¼ millions of dollars, and smuggled twice as much more, that did not appear on the official returns.

[3.] The exact consumption of manufactured cotton goods in each country is seldom attainable. But an approximation to the quantity, or value, can be easily made from the data given in the tables. Thus the quantity of cotton manufactured in each, and not exported, will, with the imports of cotton manufactures not afterwards reëxported, constitute nearly the true amount.

Another general mode of computation might be, that in such countries as Turkey it has been estimated that only two pounds of raw cotton per head, made into manufactures, is consumed. (Urquhart's Views, page 150.) In warmer and still poorer countries, it would be less. In France each person is estimated to consume $4 worth of cotton goods per year; in England, $5; and here, probably $6.

The exports to Germany and Netherlands are from one-third to one-half in twist and yarn, and are woven there. (Porter's Tables, page 300, and Baines, 416.) So in a great proportion to Russia (Sup. to Encyclop. Brit., *Cotton*), and some even to India. (See Table O.) So chiefly to Prussia. (Blackwood's Magazine for January, 1836.)

[4.] The exports to France from 1789 to 1793 are computed at 5 millions of dollars yearly, in Quar. Review, 394–9, 1824–5. (See official returns for the table, and McCulloch, page 644.) But it must include all smuggled, and is then not too high. It equals the whole amount of all the regular imports of cotton goods into France at that time from all quarters. (2 Chaptal's Industry of France, page 9.) The sums in the table for 1789, &c., are from Bowring's Report, page 52, who says that 10 millions of dollars' worth of English manufactures, and chiefly cotton, are of late years smuggled from England to France. (See also Baines, 517, note.) The whole imports of such goods into France, in 1823, were 9 millions of dollars; in 1824, 12 millions of dollars. In 1806 about 14¼ millions of dollars' worth were smuggled. (Sup. to Encyclop. Brit., *Cotton;* see 2 Dict. Spanish Com., page 214.) In 1812, all the legal imports of cotton goods into France were less than a third of a million of dollars. (2 Chaptal,

page 9.) Of those smuggled, in late years, quite 2 millions of dollars' worth were in bobinet laces. (McCulloch, 1054.)

[5.] The exports to India include the islands, and for 1831 and 1832 are from McCulloch, page 446, and the others mostly from official tables. See more in McCulloch, 235, as to that part by the East India Company. The trade in cotton manufactures has increased greatly since the first opening of it in 1814. (Do., 533–4, and 539, another table.)

[6.] These exports to Spain were chiefly from England, France, and Italy, and some from Spanish America. (Dictionary of Spanish Commerce.) Those direct to Spain from England, in 1833 and 1834, were only about one-tenth million of dollars. But England exported to Gibraltar, in those years, from 1 to 1½ millions of dollars in cotton goods (see official tables), and which found their way, in part, into Spain. (McCulloch, Dic., page 600.) The sum for 1834 is a computation only on the above data, and the fact that France exports therefrom 2 to 2½ millions of dollars yearly. (See Table O, Note [1].)

[7.] The imports into Russia, in 1832, were almost wholly from England. (Porter's tables, 545; Baines, 416.) In 1833, from England, 6 millions of dollars; and in 1834, only 5½ millions of dollars. Some of them go to places in the Black Sea, &c. (McCulloch, 859.) Russia excludes certain cotton cloths, but not yarn. (Blackwood's Magazine for February, 1836, page 62.) On others her tariff is high. (2 Smith's Com. Dig.)

[8.] Exports to Brazil, &c. (See McCulloch, 446; Baines, 416; and Official Reports for 1834 and 1835.)

[9.] England exports largely cotton goods also to Italy and Italian islands: in 1833, 7 millions of dollars; and in 1834, 10 millions. See more in McCulloch, page 814, and page 1212, some to Venice, — now one-tenth of a million.

The ratio of this kind of exports from England, in 1834, was as follows: 1. Germany; 2. Italy; 3. United States; 4. India and China; 5. Holland; 6. Brazil; 7. Russia; 8. Turkey and Greece, in 1833 and 1834, over 4 millions of dollars each year; 9. Portugal and islands, in some years 3 to 4½ millions of dollars; 10. British West Indies, ditto, 3 to 3¾ millions of dollars; 11. Chili alone, 1½ to 3 millions of dollars; 12. States of Rio de la Plata alone, 1½ to 2¼ millions of dollars. (See official returns, and Baines, 416.) Those for Germany go largely to Trieste. (McCulloch, 1186.)

The whole exports to Germany in 1833 were estimated to be so divided that from 10 to 11 millions of dollars were in cloths and laces, and the remainder in yarn, being 35 millions of pounds. Beside

Trieste, part of these exports pass through the Hanse Towns, and others through Rotterdam and Antwerp. (Blackwood's Magazine for January, 1836.)

[10.] Those exports to the United States are obtained chiefly from our own official returns of imports, though some, and especially the earliest, are from English tables.

O. — Cotton, Manufactures of.

Exports of their own, — to what places, — values of, in millions of dollars.

Years.	France to the U. States.	France to England.	France to her colonies.	Germany to the United States.	United States to South America and Mexico.	United States to India & Africa.	United States to China.	United States to the W. Indies.
1787	$\frac{1}{10}$							
1789								
1790								
1791								
1792								
1793								
1794								
1795								
1796								
1797								
1798								
1799								
1800								
1801								
1802								
1803								
1804								
1805								
1806								
1807								
1808								
1809								
1810								
1811								
1812								
1813								
1814								
1815								
1816								
1817								
1818								

Years.	France to the U. States.	France to England.	France to her colonies.	Germany to the United States.	United States to South America and Mexico.	United States to India & Africa.	United States to China.	United States to the W. Indies.
1819								
1820								
1821	2/5	–	–	1/30				
1822	1/4	–	–	1/20				
1823	1/4	–	–	1/20				
1824	1/3	–	–	1/18				
1825	1/3	–	–	1/10		Whole sum in dollars.	Whole sum in dollars.	Whole sum in dollars.
1826	1/2	–	–	1/3	8/10	10,000	14,000	99,000
1827	1/3	–	–	3/10	9/10	13,000	9,000	66,000
1828	1/2	–	–	1/2	8/10	22,000	14,900	46,000
1829	1/2	–	–	4/10	1 8/10	37,000	26,000	49,000
1830	2/3	–	–	1/3	1	75,000	56,000	47,000
1831	1 1/2	1/10	–	9/10	9/10	66,000	49,000	41,000
1832	1 1/4	8/10	–	1/2	9/10	83,000	88,000	53,000
1833	2/3	–	1 1/4	1/6	1 9/10	120,000	215,000	86,000
1834	1 1/10	–	1 to 3	3/10	1 5/10	186,000	152,000	127,000
1835								
[4]			[1]		[2]			[3]

[1.] Over half of the exports of France, in her cotton manufactures, are to her own colonies, according to Baines, 525, note; but this is too much for 1831 and '2. France exports, also, about one million dollars of them per year to Holland and Belgium, one-half million to Germany, two and a half millions to Spain, and one million to Sardinia. (See Tables of French Commerce for 1832.) In 1831, the export was short of a million to Holland and Belgium, Sardinia and Germany, each; about two millions to Spain, over 1 1/16 to Mexico, and only about one million to her own colonies, with one-fourth of a million to Hayti. Her exports to England, given in the table, are from her official tables for 1831 and 1832. Besides that, some is smuggled.

[2.] Those exports from the United States are compiled from official tables, as far as they go back, discriminating to what country. Those to the United States, from France and Germany, are from our own official returns.

[3.] *Tariff or duty on cotton manufactures.*—The exports of cotton manufactures to any particular country are often influenced by the rate of duty imposed on their importation. A detail of the several tariffs of all those countries, in respect to cotton goods, would be tedious, and might be supposed to bear on the question of protection,

&c., in the United States, and which question it is not proposed in these tables and notes to agitate.

It may be added, that the average duty imposed in France, at this time, on the imports of most cotton goods, is very high, amounting almost to a prohibition, except for reëxport. So in Russia. (Blackwood's Magazine for January, 1836.) In England it is considered to be about 20 per cent., though low as 10 on some articles. Before 1826 it was much higher,—50 and 67 per cent. (See 1 Com. Digest, by Smith, page 98, and Huskisson's speeches in 1825, in Parliamentary Debates. McCulloch, page 1117.) In the United States, the duty, in 1790, was about 7½ per cent. on the value of most cotton goods; in 1794, raised to 12½ per cent.; in 1816, to 25 per cent. and a minimum; in 1824, the same, with a certain *minimum* valuation, making the duty larger; in 1828, increased still more, by raising the minimum; in 1832, reduced again. (See the different acts of Congress on the tariff, and Pitk. Stat., page 188.)

This makes the average duty in 1833, on most cotton cloths, and as computed by some, about 42 per cent., and thus exposes it to a biennial reduction till 1842, when, by the existing laws, it will become only 20 per cent. (Campbell on Tariff, page 120.) The duty on British cotton manufactures has lately been increased in Java, by the Dutch, from 6 per cent. to 25 per cent. (Blackwood's Magazine, January, 1836, page 51.)

[4.] More could be given on the exports of cotton manufactures from a few of the above countries at other periods, but the amount and value of them were so small as to deserve very little notice, and the increases of late years, compared with their meagre and blank condition, in this respect, a quarter and a third of a century ago, are striking indications of the revolution going on in Europe and the United States, in the manufacture of cotton.

P.—Cotton.

DATES OF THE MOST IMPORTANT CHANGES IN THE CULTIVATION, MANUFACTURE, AND TRADE OF COTTON, CHIEFLY WITHIN THE PERIOD TO WHICH THESE TABLES GENERALLY EXTEND.

1730. First cotton yarn spun in England by machinery, by Mr. Wyatt. (Smithers, 153.) [1]

1735. Cotton first grown in Surinam by the Dutch, or perhaps first exported thence. [2]

1738. A patent first taken out by Lewis Paul for an improved method in carding, and the fly shuttle invented by John Kay. Stock cards were first used for cotton by J. Hargrave, in 1760, and cylinder cards were not invented till 1762, and were first used by Robert Peel. Carding not brought to perfection till 1775. (Baines, 170.) [6]

1742. First mill for spinning cotton built at Birmingham; moved by mules or horses; but not successful.

1750. The fly shuttle was brought into general use in England, in weaving, though some postpone the date to 1760. (Baines, 116.)

1756. Cotton velvets and quiltings first made in England. [3]

1761. Arkwright obtained his first patent for the spinning-frame, though he made further improvements in 1768. Became free, 1784. Baines says his first patent was in 1769. So does Wade, and that his second patent was in 1771. [4]

1763, 1767. Two years after, Thomas Highs claims to have invented the spinning-jenny, which J. Hargrave claims also in 1767. (Smithers and McCulloch, 436. Edinb. Encyclop., art. *Cotton.*) Or, according to Baines, in 1764.

1768. The stocking-frame applied to make lace by Hammond.

1772. The feeder invented by Lees, and the crank and combs by Hargrave.

1774. A bill passed to prevent the export of machinery used in cotton factories. (Smithers, 155.) And still in force, though not strictly executed. (Blackwood's Magazine for January, 1836.) [7]

1779. Mule spinning invented by Hargrave, or rather perfected by Crompton. (Baines, page 199.)

1781. First imports of raw cotton into England from Brazil; poorly prepared; and in three to nine years after, first from United States of their own growth; and from India and Bourbon about 1785. (See Table F, note, and Smithers, 156.) [5]

1782. Watt took out his patent for the steam-engine, though some say in 1769 the first one; and got into general use, to move machinery, in 1790. He began his improvements in 1764, according to Wade's History of the Middling Classes, page 82.

1783. A bounty granted in England on the export of certain cotton goods. (4 McPherson, 42 and 56.)

1785. Power-looms invented by Dr. Cartwright; though, previous to that, some similar models had existed, which had not been patented or used. (Baines, 228. Supplement to Encyclopedia Brit., article *Cotton.*) Steam-engines used in cotton factories. (Baines, 226.) Cylinder printing invented by Bell. (Baines, 267.) Arkwright's patent expired, and a great impulse to manufactures of cotton. (4 McPherson, 79 and 81.) [9]

1786. Bleaching first performed by oxymuriatic acid, by Bertholett. (Baines, 184.)

1787. First machinery to spin cotton put in operation in France, though some cotton was used in spinning, &c., since 1767. (Encyclopedia Brit., page 407.)

1789. Sea-island cotton first planted in the United States; and upland cotton first cultivated for use and export about this time, or three or four years previous. Some say in 1786 (see Tables, and Baines, 297); and others in 1790.

1790. First cotton factory built in the United States, in Rhode Island. Water power first applied to the mule spinner, by Kelly. (Baines, 205.) [8]

1793. The cotton-gin invented by E. Whitney, in the United States. This is often stated to be in A. D. 1795; but the patent is dated in 1794, March 14.

1796. Sea-island cotton chiefly substituted for Bourbon cotton, in England.

1798. First mill and machinery erected in Switzerland for cotton.

1799. Spinning by machinery introduced into Saxony. (Encyclopedia Brit., 411.)

1801. Power-looms moved by water or steam succeed in Scotland.

1802. Dressing and warping machine for power-looms invented by Radcliff and Jackson, and contributed much to their success. (Blackwood's Magazine for January, 1836.) An act passed in England, requiring in cotton-mills, as well as some others, certain clothes for apprentices, not to work them more than 12 hours each day. and certain instructions in letters to be given to them, &c. (Wade's History, page 98.)

1803. First cotton-factory built in New Hampshire. (See Table L, Note [9].) Power-loom, as now used, perfected in England, and patented by Harrock.

1805. Power-looms successfully and widely introduced into England, after many failures.

1807. The revolution in Spanish America begins to furnish new markets for cotton manufactures.

1808. Stamping the cylinders for printing cloth by means of dies introduced at Manchester.

1809. Lace machinery much improved by Heathcot..

1810. Digest of cotton manufactures in the United States by Mr. Gallatin, and another by T. Cox, Esq., and public attention drawn to their growing importance.

1811. A patent for making bobbin lace by machinery, by John Burn; though invented by Mr. Heathcott, in 1809. (McCulloch, 743.)

1813. The India trade made more free, and more British manufactures sent there; took effect April 4, 1814. (McCulloch, page 538.)

1815, 1816. The power-loom introduced into the United States first, at Waltham, in 1815, it is said in American Encyclopedia, article *Cotton*.

1817. India cotton goods less imported, on account of the minimum in the tariff of 1816. (Pitk. Stat., 188.) Same year the fly-frame was introduced in England.

1818. New method of preparing sewing cotton invented by Mr. Holt. Cotton averaged about 34 cents per pound; the highest of any year in the United States since 1801.
1819. New cotton-lands sold very high in the United States.
1820. Steam-power first applied with success extensively to lace machinery.
1822. First cotton factory erected at Lowell.
1823. First export of raw cotton from Egypt to England.
1824. Higher duty imposed in the United States on foreign cotton manufactures by the minimum principle. (See Table O, Note [3].)
1825. Self-acting mule-spinner patented in England by Roberts. (Baines, 207.) Same year the tube frame introduced there from America. Cotton rose to 21 cents per pound, and great speculations in it in the United States.
1826. First exports of American cotton manufactures, to any considerable value.
1828. Highest duty in the United States on foreign cotton manufactures. (Table O, Note [3].)
1830. About this time, Mr. Dyer introduces a machine from the United States into England to make cards.
1832. Duty on cotton manufactures imported into the United States reduced. (Table O, Note [3].) By 1 and 2 William IV. it was provided in England that, in cotton-mills, work should not be done in night by *minors*, and but 9 hours' work on Saturdays. (Wade's History, page 113.)
1833. Further opening of India trade increases the market there for English and American cotton goods.
1834. Cotton rose to 16½ cents per pound; higher than any other year since 1825.
1835. Extensive purchases of new cotton lands in the United States. [10]

[1.] In the 16th century, *cotton* manufactures came to Europe from India, through the trade of Venice. (Smithers, 118.) He says they were introduced into China from India about 200 years earlier (Smithers, page 152), having existed in the latter country from the first knowledge of it. From Venice the trade in them, and then the manufacture, went to Flanders about 1560. They existed in Arabia in the 7th century. Found in America when discovered, at the close of the 15th century.

[2.] In the 17th century, A. D. 1641, *raw cotton* came to England from Cyprus and Smyrna, and was taken from London to Manchester, to be worked up. (Smithers, 119. Edin. Rev., 1827, page 2.) Though cotton manufactures had been imported early as A. D. 1500; and the first act of Parliament relating to them, nominally,

passed in A. D. 1565, though probably woollens were intended. (Table A, note [12].) Calicoes were imported before 1631. (Smithers, page 152.) Made in London, A. D. 1681; and those from India prohibited, 1721. (Smithers, page 153. Baines, 79.)

Raw cotton, in 18th century, came chiefly from the French West Indies, Surinam, Brazil, and Isle of Bourbon, till near its close, when the imports began from the United States, India, &c. (Smithers, 123.) In 1660, England prohibited her colonies from sending it to other than British ports or dependencies. (1 McPherson's Com. 486.)

[3.] Muslins first made at Paisley, in Scotland, A. D. 1700; but they did not succeed well, nor cambrics, till 1725, in Glasgow.

In 1759, French cambrics and lawns were prohibited by law. (Smithers, 154.)

[4.] In 1769 Arkwright built cotton-mills at Nottingham, and in 1780 at Cromford, &c.,—the first moved by horse, and the next by water power. He made new improvements, and took out new patents, and, in 1780, commenced actions for violating his patents, in which he failed (Smithers, 155), though in some former trials on his first patent he succeeded. (Supplement to Encyclop. Brit., *Cotton.*)

Populace began to destroy cotton machinery in Lancashire in 1779.

The first spinning machines had only a few spindles,—say 8; but afterwards increased to 80 (do.), and sometimes to 120. (McCulloch's Dict., page 438.)

On machinery of other kinds, see in table, A. D. 1738.

[5.] The raw cotton of India, the Surats, and Bourbons, was first imported into England in 1783. Before, that from Cayenne, Surinam, Demarara, St. Domingo, and Essequibo, was chiefly used. (Smithers, 155.)

[6.] But Wyatt's invention does not appear to have been well matured or much brought into use, though he and Paul took out a patent in 1738. (Baines' Hist. McCulloch's Dict., 439; note.)

[7.] It is a remarkable fact, that the cotton manufacture was so little known and appreciated in England when Adam Smith published his Wealth of Nations (in A. D. 1776), that the subject is believed not to be alluded to by him in the slightest manner. So, in 1794, it is believed Mr. Jay was not aware that cotton was or would be exported from the United States. (Pitk. Stat., page 198. See Table F, Note 9, page 33.) In Postlethwaite's Dict., *Cotton*, 1766, he urged its cultivation in English plantations suited to it, and seemed to anticipate the increasing importance of its manufacture. (See E, Note 1.)

[8.] Mr. Gallatin states this to be, 1791, in his report on domestic

manufactures, April 17, 1810. (See Gales and Seaton's Docs., v. 2, on Finance, 425.)

[9.] Cloths were sent abroad to be bleached till 1750, and required 8 months; then reduced to 4 months, and in 1784 Watt introduced the practice of bleaching with chlorine in a few hours into England. (Baines' Hist. 246 and '7.)

[10.] Many of the above dates and facts appear in the other tables and notes; but they are collected here in chronological order, with some other material events, for the purpose of presenting in one view, or statement, the different periods in which the chief progress from fifty to a hundred years past has been made in the growth, cultivation, and trade of cotton.

EXTRACTS AS TO THE SUBJECT OF COTTON, FROM THE ANNUAL TREASURY REPORT IN DECEMBER, 1835.

1. "From this it appears that our whole exports, of every kind, in the last five years, including the estimates for 1835, have not exceeded those during a similar term, from 1803 to 1807, inclusive, but about forty millions; and being an excess no larger than at most intervening periods, while an extraordinary increase has taken place in our exports of domestic products, exceeding in value those during that term more than one hundred and fifty millions, and being quite double the excess at most intervening periods. Indeed, it will be seen that they have been almost a hundred per cent. larger than they were in any similar term of years, previous to 1816, and have exceeded those during such a term, only ten years ago, by the sum of about one hundred and fifteen millions; a difference greater than the whole amount of all our exports of domestic products during the first five years under our present form of government. The recent average rate of increase in these exports, however, has not been large, independent of the article of cotton; nor is it likely to augment during the few ensuing years. Adopting a comparison between every term of ten years, from 1792, '93, and '94, to 1832, '33, and '34, and including all articles, it appears that the whole exports of domestic produce exhibit an increase in the last thirty years of less than three per cent. annually, or a rate considerably lower than that of our population, though, in the previous term of ten years, by the great prosperity from our new form of government, and the rapid progress in the cultivation of cotton, that increase was near eight per cent.; and in the high price and large exports of this article in the last term of ten years, it has been about five per cent. annually. But as that price has of late been unusually high, and is now lower, and as the demand for cotton abroad in the ensuing year is not likely to exceed, if it equal,

the late customary ratio, and on which some interesting facts may be seen in the statement annexed (E), the value of our whole domestic exports (over one-half of which now consists of cotton) will probably be less in 1836 than in 1835.

2. "It may be instructive, in respect to the estimates of our future proceeds from lands, to recollect that, after the present system commenced, the sales never amounted, in fact, to one million of acres a year till 1815, nor to two millions a year till the temptations of the credit system, and the great rise in the price of cotton to 26 and 34 cents per pound, induced larger purchases, extending to over two millions of acres in 1817, and about five and a half millions in 1819; and thus, even fifteen years ago, exceeding in quantity, by nearly a million of acres, the large sales of 1834, and exceeding them, in the sum promised to be paid, by the almost incredible amount of more than twelve millions of dollars. But the fall of cotton, in 1820, to only about half its former price, combined with other causes, left the purchasers in debt to the government over twenty-two millions of dollars, and, with the change from the credit to the cash system, reduced the sales again to much less than a million of acres a year, caused nearly six millions of the former sales to revert, and kept them down to less than a million in every year after, till the rise of cotton in 1825 gave a new impulse, which being aided by other powerful causes, the sales gradually enlarged, till they reached a million again, in 1829. Since that, increasing still more rapidly, they have exceeded, during 1884, four millions of acres, and during 1835 probably nine millions. Among those other causes, the more extensive introduction of steam power on the western rivers and northern lakes, with the public improvements in their navigation, and the increased facilities of intercourse by railroads and canals, have of late added much to the sales of the public lands beyond previous years, and beyond the proportional increase of population. To the force of these causes have been joined, during the last three years, as formerly suggested, the effect of the preëmption law, the increase in the price of cotton, and the unusual abundance of surplus capital in 1835, seeking new investments."

3. "Besides what has already been remarked on the influence which the increased cultivation of cotton in this country has in various ways exercised, and is likely to exercise hereafter, on our revenue from customs and lands, it might be made a subject of further and very interesting inquiry, in connection with the uncertainty of the estimates on those subjects, affecting, as that cultivation does, more remotely, not only our revenue from lands and customs, but the balance of trade and the export of specie, as well as the continuance, by means of mutual dependence among great interests, of many of our peaceful and prosperous relations, both at home and abroad. But without entering, on this occasion, into further details concerning any of these points, it may be mentioned as a very striking result connected with the last one, and as furnishing a strong presumption in favor of greater exemption hereafter from fluctuations by war and commercial restrictions,

that while the quantity of cotton exported from this country has increased from half a million of pounds, in 1790, to over three hundred and eighty millions, in 1835, and has exceeded in value, during six of the last ten years, all our other exports of domestic products of every description, the manufacture of it at home, and chiefly in the northern States, has increased, from consuming only a few bales, to more than ninety millions of pounds yearly, and to that extent creates a new and strong bond of reciprocal advantage and harmony; and that while we now furnish, instead of the small quantity in the first years of our government, quite fifteen-sixteenths of the whole consumption of raw cotton by England, and seven-tenths of that by France, all the present exports of it to Europe from all the rest of the world do not probably equal, if those two nations could obtain the whole, one-third of what they now consume, or one-fourth of what they now import from the United States alone; and thus, while neither of them produces any of the raw article, except a little in some remote dependencies, that they have an annual manufacture now relying on it, and chiefly on the United States, equal in France to eighty millions of dollars, and in England to one hundred and eighty millions of dollars, and constituting in the latter, after it supplies her own large necessities at home, over one-half in value of her great annual exports to all quarters of the globe."

4. — Exports of Cotton.

Year.	Quantity, — Pounds.	Value, — Dollars.	
1792	138,828	32,000	
1793	487,600	107,272	
1794	1,601,760	320,352	
	3)2,227,688	459,624	
	742,562	153,208	Average.
1802	27,500,000	5,250,000	
1803	41,100,000	7,750,000	
1804	38,100,000	7,750,000	
	3)106,700,000	20,750,000	
	35,600,000	6,900,000	Average.
1822	144,600,000	24,000,000	
1823	173,700,000	20,500,000	
1824	142,300,000	21,750,000	
	3)460,600,000	66,250,000	
	153,500,000	22,100,000	Average.
1832	322,250,000	31,750,000	
1833	324,250,000	36,000,000	
1834	384,750,000	49,500,000	
	3)1,031,250,000	117,250,000	
	344,000,000	39,100,000	Average.

"NOTE. — Looking further to the future, in connection with the past, a brief comparison of the quantity and value of our exports in cotton at a few equidistant periods, as exhibited in the above table, will serve to illustrate, in a condensed form, the great influence which the cultivation and exports of cotton alone seem to have exercised, and are likely to exercise hereafter, on the amount of our whole exports of domestic products, and thus indirectly to affect our importations, and consequent revenue from customs. Doubtless some other cultivation and exports would have taken the place of cotton in the South, had it not been so successfully grown there; but they probably would have been less valuable, and will be so hereafter, if ever substituted for that; because the average increase of all our domestic exports, including cotton, has been only from 3 to 5 per cent., while that alone of cotton has, during the last 30 years, been, on an average, near 25 per cent. annually. But, of late, the ratio of increase in cotton, though still much greater than that of other exports, has become diminished and more settled, having fallen from quite 500 per cent., during the first ten years of our present government, to only about 10 per cent., during the last ten, though the whole annual quantity now exported exceeds the enormous amount of 380 millions of pounds. This 10 per cent. increase yearly, considering the vast quantity now grown in the United States, and how fully the cotton raised in the other quarters of the world has already been excluded from the European markets, with other circumstances named in the body of the report, may be justly estimated both as a more regular ratio than any which has prevailed heretofore, and as something larger than its probable increase in the ensuing ten years."

ADDENDA.

Table A, Note 3, page 255. Other statements made in some of the Atlantic States, and at other periods, show a smaller difference between the exports of 1835 and 1836, to the last dates. In some accounts of the exports kept in the South-west for the current year, the quantity is represented there to be less at the most recent dates than during the same period of last year by about 70,000 bales, and the stock on hand to be about 100,000 bales less.

Table B, page 259. Cotton has been raised in Illinois, and even in Pennsylvania. (Niles' Register, February and March, 1822, pages 371 and 67.) But it is believed not to be raised of late to any considerable extent north of Tennessee and Virginia. This table shows another striking fact: that considerably over half the whole crop of cotton in the United States is now raised in the new South-western States, whose outlets are on the Gulf of Mexico, and where little was grown and scarcely any exportation made previous to 1803.

Table C, Note 2, page 265. In the ninth line from the top, the price named means the price of common cotton.

Table L, Note 9, page 310. Since these tables were transmitted to the House of Representatives, the original letter which was written in consequence of a circular from Mr. Hamilton, Secretary of the Treasury, on the subject of manufactures, dated June 22, 1791, from Moses Brown to J. S. Dexter, dated July 22, 1791, has been sent to me.

It confirms the statement in the notes, that the first cotton-mill in Rhode Island was built in 1790. Attempts had been made, Mr. B. says, by himself, in 1789, to get the machinery into operation by water, by means of models for carding and spinning, which the State of Massachusetts had procured from abroad. But no mill was actually begun until the autumn of 1789, when one was commenced by the assistance of Mr. Slater, who had then recently come from England, notwithstanding the obstacles which were opposed to the emigration of artists, and the exportation of machinery. About this time a cotton-mill was erected at Beverly, Massachusetts, by an incorporated company. (See more in that letter, and in Gales and Seaton's Docs., vol. 1, Finance, page 142; Hamilton's Report on Manufactures, and Pennsylvania Mercury, for 1789.) It is said that the model of the machine for weaving by water was procured from England by some persons in Delaware, as early as April, 1788. (See Penn. Mercury.)

LIVE OAK.*

I HAVE the honor to submit this communication, in compliance with the last clause of a resolution of the House of Representatives, passed February 25th, 1832, on the subject of live oak.

That clause requested the Secretary of the Navy to report to the House, "at an early period of the next session of Congress, such further information on this subject as he may be furnished with by the agents, or others who may be employed in the service, with his views of the best means of preserving the naval timber growing on the public lands; or, if he deem it necessary, that he lay before the House a plan or system which he may think best calculated to secure to the nation an adequate supply of this material, either by cultivation or the purchase of lands now containing such supply."

As the preceding clauses in this resolution related to no other timber than live oak, and as the examinations of the agents have been directed chiefly to that material, I presumed that such timber only was in this case intended to be embraced under the expression of "navy timber," and have accordingly confined my remarks to the subject of live oak.

In respect to the "further information" which has been furnished by the agents, concerning that kind of timber, since the passage of the resolution, and which information is first called for, I would observe, that frequent and extensive additions have been made to what was before procured; but from the circumstances under which the agents necessarily obtain new information, it has been forwarded in very detached portions. Merely laying copies of their several communications before Congress, would exhibit a mass of undigested matter, which would not readily afford any definite conclusions.

It has, therefore, been deemed proper to extract the material facts contained in all the correspondence of the agents under the present system, and to arrange them in as clear a manner as the general, and, in some degree, uncertain nature of the examinations and estimates would permit. The result of the whole is submitted, in a tabular statement.

This statement shows, as nearly as practicable, the present number of trees growing on what are supposed to be public lands in each of

* Report of the Secretary of the Navy on the subject of Live Oak, December 14, 1832.

the seven districts between the St. Mary's and the Sabine rivers, so far as each has been explored by these agents.

It also gives the estimated number of cubic feet in those trees suitable for the frames of ships of the line, frigates, sloops, and schooners. It indicates the parts of each district in which the trees grow, their distance from navigable water, and whether the lands on which they grow have yet been surveyed, or reserved, or recommended to be reserved, when hereafter surveyed.

Another statement has been prepared, in a similar manner, relative to the live-oak trees incidentally noticed and reported by these agents as growing within their districts on private lands. But, as the examinations of such trees were not officially required of them, except where very numerous and valuable, this statement is doubtless more imperfect, and more below the whole quantity of trees growing on private lands within their districts, than is the first-mentioned statement of trees growing on public lands.

To meet the views of the select committee on the subject of live oak, appointed at the last session of Congress, the localities of most of the trees described in both these statements have been marked by the draughtsman of the department upon the map. On the accuracy of the statements, it may be proper to remark, what must be fully apparent to all acquainted with the difficulties of this subject, that the department can only vouch for their correctness as careful compilations from the reports of the agents.

These agents, however intelligent and faithful, could not attain perfect certainty in their examinations, but are believed to have generally evinced capacity and accuracy in the discharge of the duties confided to them.

A few circumstances, which have occurred to me as likely to possess some bearing on the whole result of their proceedings, and therefore entitled to consideration in forming an opinion on them, I deem it my duty to suggest for the attention of Congress.

A portion of these trees, when cut, may be found decayed by age, or injured by wind-shakes, beyond the allowance made on these accounts in the reports of some of the agents. In this kind of timber, as decay generally commences at the heart, it is hardly possible to decide with correctness on the extent of such defects, until the tree is felled. Another portion of these trees, in the future settlement of titles to the lands in some of the districts, may be found to grow on soil not owned by the public, though the trees are reported, in the first tabular statement, as being on public lands. Those titles, especially in some parts of Florida, continue in much doubt; but less so, it is believed, on the sea-coast, where the live oak is more abundant and valuable than in the interior. Only about one-seventeenth of the land included in the seven districts is computed to belong, at this time, to private persons.

Some of these trees may be found so situated, as to navigable water,

that the value of their timber will not be sufficient to pay for its transportation. The specific gravity of live oak is from one-fifth to one-sixth greater than that of water, and the trees generally grow where the roads are so bad, and the soil so moist, that the transportation by land, for any considerable distance, of so heavy an article, and in such large pieces as are required for naval purposes, would be either impracticable or exceedingly expensive.

Part of these trees are so sparsely scattered, and in such detached situations, that the agents have not considered their worth sufficient to justify recommendations to reserve the lands on which they grow: others are on lands which have not yet been reserved, because not surveyed.

In fine, a portion of these trees, while standing, and before wanted for immediate use or deposit, must be considered as exposed to certain loss by depredations, gales, fire, and natural decay.

On the other hand, before wanted, much young growth, not now included in the reports of the agents, will have increased in size so as to become valuable; and, without doubt, some other trees will be discovered in the explored districts, which have now escaped research; and many more trees will be found in those portions of two of the districts which have not yet been even partially explored.

It is to be recollected, also, that the scattered trees, not in sufficient quantities on the public lands to justify their reservation, and those trees on lands now supposed to be public, but which may hereafter prove to belong to individuals, although they must all hereafter be deducted from the first tabular statement, will still constitute additions to the second statement; and, with most of the trees in it, will probably contribute as useful resources, either in private hands, to supply, by contract, the more early wants of the navy, or, in a few instances, to be purchased and reserved by the government, with the soil on which they grow, wherever and whenever their great number to the acre, and the urgent necessities of the public service, may be thought to render such a course judicious.

Without any additions or deductions on account of these circumstances,— the amount of which additions and deductions it would not be possible to fix with great certainty, but which every person can estimate for himself,— it will be seen that the whole number of live oak trees suitable for ship-building, which the agents under the present system have yet examined and reported as now growing on the public lands, is about 144,655.

These, at twenty cubic feet per tree on an average, which is the estimate adopted by some persons, would furnish 2,893,100 cubic feet of timber. Others, of much experience, calculate that such trees "of the ordinary size" would each, on an average, yield at least eighty cubic feet. (Rep. 102, Ho. Reps. 21st Cong. 2d sess., 78 page.)

This would increase the whole quantity to 11,572,400 cubic feet. About fifty feet, the mean between the two estimates above men-

tioned, will probably be found the most accurate; as the quantity to each oak-timber tree, on an average, in England, is computed at forty-five feet, and the live oak, though it may not be generally of so great height as the British oak, yet, from its longer horizontal limbs, often yields more ship-timber. At this rate of computation, there would be 7,232,750 cubic feet.

The proportion of this timber, as found growing and suitable for ship-building, which is large enough to construct ships of the line, is sometimes considered about one-half; and to construct frigates, about one-third; and to construct sloops and schooners, one-sixth.

But, reducing this proportion to one-fourth for ships of the line, one-fourth for frigates, and one-half for sloops and schooners, which must be within the truth (Doc. 178, Ho. of Reps., page 26, March, 1832), and computing thirty-four thousand cubic feet as sufficient for the frame of a ship of the line, twenty-three thousand for that of a frigate of the first class, eighteen thousand for one of the second class, eight thousand for that of a sloop, and one thousand eight hundred for that of a schooner, which are near the average quantities; and the whole first-named number of feet on public lands would suffice for the frames of 173 vessels; one-fourth of these would be ships of the line, one-fourth frigates, and one-half sloops and schooners,— the two last in equal proportions.

The whole second-named number of feet on public lands would suffice for 693, and the medium number of feet for 433 similar vessels.

It will further be seen, by the second tabular statement, that, pursuing the same course of calculation, the number of trees as yet reported by these agents as now growing on private lands being, in all, 8975, their contents in ship-timber would be, on the three different estimates before mentioned, 179,500, or 718,000, or 448,750 cubic feet. This, if all of it should hereafter be obtained for the navy, would prove sufficient for 10, or 43, or 27 vessels, as one or the other of the above estimates should be adopted. Without any increase for other trees known to exist in Georgia and South Carolina, on private lands, and, in portions of some of these districts, on both private and public lands not yet fully examined by these agents, the above results, I am aware, are much larger than what have been published as the opinions of some intelligent persons on the whole supposed quantities of live-oak timber growing in this country. But it is to be recollected that those opinions were founded on observations and explorations much more limited and imperfect, and made in part at such remote periods, as to leave it greatly conjectural how little of the timber, once seen, still remained uncut and undestroyed. The present results, also, large as they are, might be expected to exceed the computations of any individual heretofore, as they embody all the detached and more careful examinations of many individuals. Giving the quantity now remaining, from actual inspection, and on the public lands, not from rumor or estimates made at a distance, except in a single

case, which is particularized, they likewise have some superior claims to correctness.

2. The second point embraced in the resolution is a statement of my "views of the best means of preserving the navy-timber growing on the public lands."

On this subject, the legal remedies which now exist for depredations committed are deemed sufficient, so far as respects punishment. But, for the detection and prevention of trespasses, I think it should be further provided by law, that the masters of vessels which sail from Florida, Alabama, Mississippi, or Louisiana, laden with live oak, should furnish to the collector, before allowed a clearance, satisfactory evidence that the timber was cut on private lands; or, if on public lands, was cut with the permission of the proper officers. As an additional security against depredations, and particularly against injuries by fires, I would recommend that it be made the duty of all public officers in the above-named States and Territory, connected with the customs and land-offices, to keep a vigilant eye on the security of our live oak, and to prosecute persons known to be guilty of gross neglect or wanton wrong, to the damage of this species of public property. These provisions, added to the present laws, and coupled with the prompt reservation of the lands on which valuable growths of timber exist, as fast as the country is surveyed where they exist, will constitute, in my opinion, "the best means of preserving the navy-timber growing on the public lands."

3. The last section of the resolution requests the Secretary of the Navy, "if he deem it necessary, that he lay before the House a plan or system which he may think best calculated to secure to the nation an adequate supply of this material, either by cultivation, or purchase of lands now containing such supply."

The Select Committee on Live Oak, appointed the last session, made a similar request, and extended it to some other particulars bearing on this subject; and which request, so far as not then answered, I will endeavor to comply with in the course of my remarks under this branch of the present inquiry.

The diversity of views, and the conflicting interests, known to be connected with any course which the government might be advised to pursue hereafter on this portion of the resolution, will undoubtedly expose all opinions, recommending any particular course, to some severity of criticism, and might, in the present unfinished state of the examinations by our agents, have furnished me with a sufficient apology for not expressing, at this time, any decided sentiments on so controverted a topic. But, believing that some of the difficulties hitherto existing arose from defective information, which the recent examinations by the agents as far as completed, and the collection of certain material facts accessible to the department, would tend to remove, and that it might be considered as avoiding responsibility and labor, not to comply with the apparent wishes of the House of Representatives,

as fully as practicable, I have not hesitated to present, under this head, so far as my exertions could extend, every fact and estimate that appeared pertinent to the inquiry, and likely to be useful in the future deliberations and legislation of Congress on this important portion of the resolution.

In only a few of the computations which may be offered, do I profess to have attained perfect accuracy; but, in all of them, there has been attempted the nearest approximation to it which the defective materials before me, and the uncertain nature of the subject, permitted. I entertain no doubt that those who are acquainted with the inherent difficulties attending this inquiry, and the contradictory opinions generally prevalent on this part of the subject, will exercise the liberality duly to appreciate my motives, and to make suitable allowances for any unintentional errors.

In order to decide, judiciously, on a proper "plan or system" in future, either for purchasing more lands, now covered with a valuable growth of live oak, or for cultivating, artificially, this kind of tree on any lands, and in any particular method, it will be necessary, first, to ascertain our probable demands in future for that species of timber, and, afterwards, our means of obtaining a sufficient supply of it to meet those demands, either from materials now on hand, or by contracts from private lands, or from the public domain, in its present condition.

The frames of our public vessels are the only parts of them usually constructed of live-oak timber, and the computations will, therefore, be confined to a supply for the frames.

Upon the hypothesis that our force in commission will, for some years, be continued at about its present size,— and on the propriety of which hypothesis some remarks may hereafter be offered,— it will be indispensable to provide annually a small quantity of live-oak timber for ordinary repairs, and another quantity, somewhat larger, to take the places of such vessels as may be lost by accident, wars, and great natural decay. I have turned my attention, first, to the quantities deemed indispensable, and have considered those for the objects just named as the only ones strictly indispensable, because the further quantity needed for the vessels which sound policy may require us to keep in ordinary, and on the stocks, or the quantity of live-oak timber which the same policy may require us to place in depot, to aid in enabling us to increase, at any time, our force in commission, so as to meet any future emergencies of the country, is rather a matter of public expediency than of indispensable necessity. It will depend on arguments as to the proper size of our naval establishment, and the proper extent of our collection of naval materials to meet future contingencies, and about which opinions may somewhat differ, and which will soon be examined, rather than on an immediate, obvious, and indispensable want, about which little diversity of sentiment can prevail.

The first indispensable quantity, which is that for small annual repairs of the live-oak frames of our vessels kept in commission, will probably not much exceed one thousand seven hundred feet per year, or about one per cent. on the whole quantity of these frames.

Though this amount may appear small, it will undoubtedly be found ample for the object, when we advert to the kind of repairs here specified, to the durability of the timber used in the frames to be repaired, to the unexposed parts of the vessel in which it is used, and to the favorable result of our experience on this subject, which will hereafter be detailed.

The next indispensable quantity, which is that wanted to take the place of what live oak in frames may be lost while in commission,—by great decay, by fire, shipwreck, and war,—will probably not exceed eight thousand five hundred cubic feet per year. This last computation is founded on the estimate that, in the ordinary course of events, it will become necessary, from great decays, and from disasters, either virtually, by large repairs, or actually, by either rebuilding, or by the substitution of other vessels already built, to replace all our force of live-oak vessels now in commission, during the lapse of the next fifth of a century.

This force consists of four frigates, nine sloops, and seven schooners; all the frames of which, except of one schooner, are, in part or altogether, composed of live oak. At the rate of computation before suggested as correct, those of live oak contain about one hundred and sixty-five thousand four hundred and eighty cubic feet; and one-twentieth of that is eight thousand two hundred and seventy-four feet, or about five per cent. on the whole quantity at present in commission. This augmented to eight thousand five hundred feet, and the seventeen hundred estimated for small repairs, will together amount to over six per cent. on the frames actually in service, as the quantity here computed necessary to maintain them entire. Without, at this time, offering anything more on the basis of these calculations, but the general correctness of which will be illustrated in the course of this report, it may be seen that these two estimates will require to be provided for small repairs, and for replacing losses for all causes, in our live-oak vessels in commission, about ten thousand two hundred cubic feet annually, or at the average rate per year of a quantity more than sufficient for one new sloop, or each two years about enough for a frigate of the first class, or each three years almost enough for a ship of the line.

In regard to the procurement of these indispensable supplies, the first quantity for annual repairs, considering the use for which it is wanted, must be obtained in detached pieces; and, as we now have on hand seventy-five thousand feet of live oak purchased for repairs, and of which over fifty thousand is intended for ordinary ones, it could, for twenty or thirty years, be furnished from that source, and afterwards, if necessary, from timber in depot.

The second quantity could mostly, and to great advantage, be obtained, for many years, by substituting our vessels now in ordinary, whenever they are of the size wanted. The frames of such of them as were built of live oak contain about three hundred and twenty-two thousand six hundred and thirty-three cubic feet; being an amount, nominally, sufficient to replace more than twice the loss of our whole force in commission. The frames of the Macedonian, Hudson, and Cyane, and two-thirds of that of the Guerriere, are excluded from this computation, as not being of live oak; and other large deductions should undoubtedly be made from the extent of this source of supply, in consequence of the advanced age of a number of the live-oak vessels in ordinary, and the future decay to which they are all liable while remaining in ordinary.

Besides this source of supply to replace those in commission, we have vessels on the stocks which contain in their frames about three hundred and fifty-four thousand cubic feet, and constitute a sure and more durable resort, when necessary, than those in ordinary.

These vessels now on the stocks are sheltered from injury by the weather; are not decayed by either wet or dry rot; are little exposed to future damage, except by fire; and, until launched, bid fair to continue sound, at least in their frames, for some generations.

Again: beyond both of those resources to replace lost and decayed vessels now in commission, are the live-oak frames in deposit at the different yards, and to which, in case of necessity, a resort might be had. These contain over four hundred and thirty-one thousand eight hundred and forty-five cubic feet of timber, or nearly thrice the quantity now in commission; and they will probably remain not essentially injured for centuries, if receiving proper attention, and if, in the mean time, they are not wanted for public purposes.

These general remarks and estimates are presented merely with a view to furnish some aid in forming a just opinion on the true extent and character of our resources on hand in live-oak timber, and on their sufficiency, if required, to meet, for a time, our indispensable wants of that kind of timber.

But it is by no means recommended to place entire reliance, even for our indispensable wants, or any large portion of them, upon the resources just enumerated.

On the contrary, some further remarks and estimates will now be presented, with a design to throw additional light on the extent of our resources in live-oak timber, whether growing or cut, and in various shapes now on hand; and whether growing on public or private lands, but yet suitable and available to meet all such demands for that kind of timber as may be required in this country, no less by a future sound policy on naval subjects than by our indispensable wants.

In this inquiry, it is desirable first to ascertain, as near as may be, what has been the extent of all our former demands in the navy for live-oak timber; and then to estimate, from that extent, and other con-

siderations, what those demands will probably be hereafter. It will next become proper to ascertain whence and how the supply for those former demands has been obtained; and then, from that result, and other information bearing on the subject, to estimate whence and how the supply for our future demands is to be obtained.

All our purchases and use of live-oak timber, heretofore, for annual repairs, all our purchases and use of the same kind of timber for the immediate building of vessels, and all our purchases and deposits still remaining for the future gradual improvement of our navy, cannot be ascertained with accuracy, but probably can be computed so nearly to the truth as to furnish material aid in forming an opinion on the whole extent of all our demands, both hitherto and hereafter, for live-oak timber.

It is gathered, from our records and other sources, that our former purchases of live-oak timber, for all kinds of repairs of all vessels afloat, have probably been about one hundred and sixty-eight thousand cubic feet.

The basis of this, and most of my other material calculations, will be given, in order that any errors may be detected, and, in the final result, all due corrections and allowances be made, not only on account of arithmetical mistakes, but diversities of opinion on any of the important data entering into the elements of those calculations.

Our purchases of live-oak timber, for all kinds of repairs, during the last ten years, have been 75,000 feet: previous to that, our records on this subject are defective, and the amount is to be estimated. As the above 75,000 feet included 10,000 for the rebuilding of one live-oak vessel, and 57,000 for the repair and rebuilding of other vessels, not before constructed of live oak, and as similar occurrences are not known to have happened before, I have computed the purchases during the previous ten years at only two-thirds as much, or 50,000 feet; and during the fifteen years still previous, when our vessels were fewer and newer, at the rate of only one-half as much as in the succeeding ten years, or 37,500 feet; making in all, with an addition of about four per cent. for errors, the above amount of 168,000 cubic feet. The portion of this whole quantity which has been actually used for small ordinary repairs of our live-oak vessels is not readily to be ascertained; but it is a very important inquiry, with a view to estimating, as accurately as possible, what may be the extent of our annual demands hereafter for that species of repairs.

The amount we have actually used for that purpose has, according to my estimate, been only about 33,000 feet. The basis of this estimate is, that for all kinds of repairs during the last ten years to the frames of our vessels, it cannot be ascertained that we have used over 54,000 feet of live-oak timber. Our record shows that 42,000 of that has been used in other repairs than small and ordinary ones to the live-oak frames of vessels, and, consequently, leave only 12,000 feet, or an average of 1200 per year, as the probable amount consumed in this

last description of repairs. Computing these last during the ten previous years to have been equally large, as that time included a period of war, and during the first fifteen years of our more limited establishment to have been at the rate of only half as large, and the result would be, as above stated, but 33,000 feet actually used hitherto for the small repairs of the live-oak frames of all our vessels.

The correctness of this result is strengthened by the circumstance that, of the whole amount of 168,000 feet purchased for repairs, we are able to ascertain that about 57,000 have been used, and are now using, to repair and rebuild frames before constructed of other than live-oak timber; and about 20,000 have been used to repair largely, and to rebuild vessels before constructed of live oak. We have now on hand, for the purpose of ordinary repairs, about 50,000; and these three items, with the 33,000 feet before estimated as used for small repairs, would absorb the whole purchases, except 8,000 feet. It is known that some of this 8,000 feet has been used in the ordnance service during the late war, and that some has been occasionally diverted to still other public purposes; and all of which, with the casualties of over a quarter of a century, would probably equal the whole balance.

Though this estimate makes the actual use of timber for the small repairs of our live-oak vessels during the last thirty-five years to have been, on an average, less than 1000 feet annually, and during the last ten years only 1200 feet annually, yet our future demand for that purpose must be computed much higher. A number of the live-oak vessels afloat are very old; most of them have been launched over ten years. The whole repairs in them must become larger; and a plain line between "small" and "middling" repairs in such vessels cannot always be drawn with much accuracy.

Under these circumstances, coupled with a due allowance for errors in our result as to the past, I think that 3400 feet annually will be a proper and a liberal estimate for our future demands of live oak for the purpose of small ordinary repairs. This is an aggregate of about one per cent. on our force in commission, and of about one-half of one per cent. on that in ordinary; or, on an average, nearly three-fourths of one per cent. on the whole force afloat. Our navy board consider two per cent. on what is afloat as a fair estimate of this species of timber annually wanted for all kinds of repairs.

Deeming this to be correct, the portion of it I have computed to be chargeable to small ordinary repairs hereafter is much greater than my estimate before made is of our actual past use for this kind of repairs, out of the whole.

As further evidence that I have thus computed enough for this kind of repairs, it will be observed that the proportion for small repairs, out of the whole, would, in fact, be somewhat greater for the past than the future, as the large repairs in the frames of our live-oak vessels heretofore have, in only one case, been known to exceed fifty per cent. on their

original cost, while, as our vessels grow older, the larger repairs must be more frequent, and constitute a larger proportion of the whole.

Much light cannot be thrown on this subject by the yearly appropriations for all our repairs, as compared with the computed original cost of our vessels. Those appropriations have been for some years over eight per cent. on that cost. But this has included not only repairs of the vessels, but of their equipments, and of other parts of less durable timber, as well as of the frames, and large as well as small repairs, and the labor in making all these repairs. In fact, it presents not far from the amount in money deemed necessary not merely to repair the frames, but to maintain entire the materials of every kind in our whole force afloat. It happens, also, that very little pertinent information on this point can be derived from foreign services. The French estimate that their vessels will require to be slightly repaired in four years, thoroughly in eight, and virtually, if not nominally, rebuilt in eleven years.

The British estimate that "small" repairs will be necessary in five or six years, and "very small" sooner. Though they divide repairs into various grades and titles, from "very small," at one-eighth of the original cost, and "small," at one-fifth, up to "large," at nine-tenths, and "very large," at first cost, yet I have not found the average time for each kind estimated, except as the whole average duration of their vessels is now computed at about thirteen years. Sometimes all their repairs are estimated at one-seventy-second per year of the quantity of timber afloat, or equal to one-fourth of what is deemed necessary to keep up annually their establishment entire.

But, as might be expected, considering the inferior durability of fir and of all other oak to live oak, and the less proportion of repairs required on frames than other parts of a vessel, all these expenditures are in a ratio nearly one-half larger than our estimate for future small repairs on only our live-oak frames, and, making a due allowance for every circumstance, rather confirm than impair the results which I have before stated.

Assuming, then, for the present, what will hereafter be further examined, that our force now afloat will not for some years be essentially diminished or enlarged, the quantity of 3400 feet of live oak annually will, it is probable, prove sufficient for the small ordinary repairs of all our live-oak frames afloat, and will, therefore, constitute the first item in our permanent yearly demands for this kind of timber, to be in some way and from some quarter hereafter supplied.

Our annual purchases and actual use of live-oak timber for building, independent of common wear and tear, form the next subject of inquiry. It is well known that these purchases have heretofore been very irregular. But all this timber which has been used in the frames of public vessels constructed since A. D. 1797, whether originally purchased for that or other purposes, has been about 974,363 cubic feet. This is, on an average, about 27,838 feet per year. What may

be the extent of our annual demands on this account in future, will depend, in some measure, on fluctuations in policy as to the whole size of our naval establishment, on the amount of force deemed proper to be kept in commission, on misfortunes in war and by shipwreck, on the future decay of our vessels already built, and much on the circumstance whether the quantity of live oak required in consequence of these causes shall, for many years, be supplied entirely or partially by rebuilding anew, and by purchases for that object, or entirely by substituting other vessels now in ordinary and on the stocks, and by taking frames already in depot.

But should this quantity be supplied hereafter, in such manner as not to diminish the sum total of our present force of live oak in commission, in ordinary, and on the stocks, though we might advantageously, as new vessels are wanted in commission, supply our necessities from those in ordinary, when of the size wanted, and proportionably increase the number of those on the stocks, since vessels in the latter state are preserved with less injury than in the former, — and should it be made in such manner as not to diminish our frames in depot, but allow their annual increase in the mode lately practised, and now, as well as heretofore, earnestly recommended, — we shall then pursue that manner in furnishing the quantity needed which seems to me least exceptionable, and most consonant to the only correct general policy on the subject of our navy. In that event, there would probably be required about one-twentieth of the present quantity of live oak in commission, or 8274 feet, and one-thirtieth of that in ordinary, or 10,754 feet, to supply the average annual losses by large and entire decay in the frames of vessels of those two descriptions. To this may be added, in order to meet every probable and almost possible contingency, about one-half of one per cent. for losses by shipwreck on those in commission, amounting to about 827 feet, and about one-third of one per cent. more for losses by accidental fire on all in commission, in ordinary, on the stocks, and on all timber in depot, under sheds. This last one-third of one per cent. will be about 4246 feet. These estimates for shipwreck and fire exceed anything which our experience, as hereafter detailed, would justify, but are adopted to meet any plausible, though large, computation for the future. These all would constitute, under this head, about 24,101 feet per year, as a second item in our annual permanent demands to be supplied. This quantity, it will be seen, is about one-twentieth, or 5 per cent. of the whole frames afloat. If the amount for small repairs be added to it, making together 27,101 feet, it would be almost $5\frac{3}{4}$ per cent., or over one-eighteenth of the whole afloat. This is deemed requisite, to keep up, in all respects, the live-oak frames of the entire establishment in commission and ordinary. In England it is estimated by some that one-eighteenth is necessary for that purpose, including all parts, instead of only the frames of the vessel, and all those consisting of inferior kinds of timber. The commissioners of our navy board estimate it at 6 per cent. on the live-oak frames, or about one-seventeenth of the whole afloat.

This would make a difference of only about 1785 feet, and, to avoid mistakes, and to cover all deficiencies, I shall assume that per cent. as correct in my future calculations, and thus increase the sum per year for large repairs and rebuilding to about 25,886 feet. To illustrate the basis of these computations a little more by details, it will be seen that the estimates under this head are founded on the supposed continuance, during some years, of our force afloat at its present size, as not being too large for all our legitimate wants.

So far from its present size being deemed too large for those wants, or at all adapted to the expensive scale of one, two, and three hundred vessels in commission, or to one, three, and five hundred vessels built and building, as practised by some of the great maritime powers of Europe, — so far from its looking to any extravagant project for either ostentation or future naval conquests, or the gratification of mere national pride, — it differs but little from what was estimated as judicious in December, 1798, the very first year this department went into operation.

The Secretary of the Navy at that time suggested that a proper permanent force at command should not be less than "12 ships of 74 guns, as many frigates, and 20 or 30 smaller vessels." In January, A. D. 1801, a similar estimate was presented, and, in December, 1811, a like opinion was expressed by the department, except a recommendation to augment the number of frigates to 20, and leave the smaller vessels to be regulated by future convenience and exigencies. The instructive lessons taught on this subject during the late war, and our experience during the last seventeen years, confirm the sound political wisdom of now maintaining an establishment at least equal to our present one. The more extensive range of our commerce, its new exposures in barbarous countries, the great increase of our sea-board, by the purchase of Louisiana and Florida, and the convulsions that now agitate many parts of the civilized world, would seem to dictate a considerable increase, rather than reduction, since the original estimates of the only species of force which can yield to our commercial interests abroad efficient protection, maintain there "the rights and independence" of the Union, "secure the personal liberty of our citizens," and be in readiness, on any emergency at home, to aid powerfully in the defence of our great coasting trade, and our very extended maritime frontier.

Presuming, then, that the expediency of continuing, for some years at least, the present strength of our disposable force, has been satisfactorily shown, it is believed that the allowance before proposed for annual losses by accident and decay will, on a little inquiry and reflection, be deemed amply sufficient. Many of the vessels afloat which have been launched within the last fifteen years will probably endure more than one-fourth of a century longer, while some of them built earlier may perish sooner. Four of our present frigates — the Constitution, the United States, the Congress, and the Constellation — were

all afloat before A. D. 1800, and three of them in 1797. Though they have since undergone frequent repairs, yet their original frames, except where destroyed by too large and frequent boring for treenails, or where constructed of timber not well seasoned, mostly remain sound. As the improved practice of bolting with copper and iron, and, consequently, of making smaller and fewer holes, shall prevail extensively, the first-named source of injury to our ships of war will diminish; and though from ten to fifteen years is the average estimated duration of an English oak vessel in commission, and only from six to ten years the duration of the vessels of many European powers, when made of other oak or of fir, yet our experience, and the changes above mentioned, justify a belief that from forty to fifty years will, in future, be nearer the truth, in respect to the serviceable duration of the frames of vessels built of well-seasoned live oak, and used from time to time as ours have been, alternately in commission and in ordinary, and, when in ordinary, protected, as ours now are, with great skill and attention. Should our present excellent system of ventilating, covering, and inspecting vessels while in ordinary continue, their frames, when of live oak, will probably last many years without being much impaired, and the allowance proper on account of their future decay will be somewhat less than that for vessels while in commission. Accordingly, we have estimated the average duration of those now in commission at about twenty years; and, as many of the vessels now in ordinary are comparatively new, as the frames of some others have not been injured by frequent boring and repairs, and all of them are so well protected from the weather, it might be safely calculated that the whole in ordinary, if put into use as needed, in the place of those in commission, would not, on an average, perish under thirty years.

The manner of building, as to care and closeness of finish, the dryness and good ventilation of the inside of the vessel after launched, as well as the thorough previous seasoning of the timber, — all have a material influence on its durability, and have, of late years, received particular attention in our service. To these remarks, bearing on the correctness of the above allowances, it may be added, that, during the last thirty-five years, since our present navy commenced, only a single live-oak vessel in our service is known to have been chiefly lost by natural decay, and only two small ones by shipwreck. This has scarcely anything like a parallel, unless in what is reported of the finely built vessels of teak, at Bombay. Some decays and injuries in most of the live-oak frames of our vessels have, of course, occurred from common wear and tear, and some from the other special causes previously enumerated.

But most of the repairs in our vessels hitherto having been in other portions of them than such as are made of live oak, little is justly chargeable to great decay in the live-oak frames. Another series of facts, resting on careful computations, will lead us to a similar

conclusion. Of the whole quantity of live oak put into the frames of public vessels in building them since 1797, being about 974,363 cubic feet, there now remain about 165,480 feet in commission, 322,633 feet in ordinary, and 354,000 feet on the stocks, leaving only 132,250 feet not now on hand. Of this last quantity, 8000 feet were sold by order of Congress, in A. D. 1801; 68,375 feet were captured and supposed to be destroyed by our enemies in four different wars; 44,500 feet were burned by ourselves in 1814; 3375 feet have perished by shipwreck; and only about 8000 feet by great natural decay, requiring rebuilding. This makes a loss of live-oak vessels, in thirty-five years, by the last cause, of nominally almost nothing, as the only vessel considered to have been thus lost is the original John Adams, which, having been imperfectly built by contract in a private yard, and with timber not known to be thoroughly seasoned, experienced a premature failure. But, in reality, the loss by decay has been only the above amount of 8000 feet; and what has been supplied, as before suggested, in small quantities, in the ordinary annual repairs, and some more extensive injuries before referred to in the older vessels, arising from peculiar circumstances, and which injuries, for reasons before named, will not probably so often occur hereafter. Though the extent of all the repairs which technically ought to be charged to rebuilding cannot be exactly ascertained, I think that a liberal estimate has been presented for them, and for entire rebuilding from all kinds of losses in future, by computing it at 25,886 feet annually, or a little more than enough for one frigate of the first class every year. I have made no specific estimate for losses in future wars to be hereafter supplied. because it is hoped those losses will prove few and far between; and because, if greater than what we may acquire by captures, they could readily be replaced from frames in depot, the great safeguard and reliance, in this respect, in any national emergency.

Our whole purchases of live oak, made to promote the increase and improvement of the navy, and placed in depot, form another topic of inquiry. They have been mostly paid for, except some early specific appropriations, from a ratable part of the general appropriations gradually to promote that increase and improvement, and have amounted, in all, to about 909,911 feet. Of this whole amount, much has been already employed in the construction of some of our present vessels afloat, and on the stocks; but the quantity which has not heretofore been burned while in depot, nor used for either repairing or building vessels, nor for any other purposes, and now remains on hand designed for building, and not for repairs, is about 431,845 cubic feet. Of this quantity, the annual purchases, the last ten years, have constituted a large portion of the whole, and have been, on an average, about 33,000 feet per year; or about enough annually for the frame of one ship of the line, or of one frigate and one sloop of war.

Should the policy that has prevailed on this subject during those ten years continue for some time longer, and the present appropria-

tions for gradual improvement be renewed by Congress, the above quantity of 33,000 cubic feet will constitute a third and last item in our permanent annual demands of live-oak timber to be in some way hereafter supplied.

For reasons assigned in the report from this department, made December 3d, 1832, the long continuance of the policy before mentioned as to this kind of timber, as well as other useful materials for ship-building, and munitions for naval warfare, seems to me highly judicious. Some additional reasons for it, as regards this kind of timber, can, on this occasion, be more properly presented.

It is to be recollected, that if, as now estimated, we should, in a spirit of liberal foresight, continue to follow this policy of gradually placing a reasonable supply of live-oak timber in depot, before it may be wanted for immediate use, still, our provision for all kinds of timber necessary for naval purposes will not be extravagant; but, on the contrary, will probably require much further attention than has hitherto been bestowed on it.

I have before remarked that the frames of vessels constitute only about one-fourth part of the whole timber used in their construction; and collecting and preserving that one-fourth seasonably, fully, and carefully, as we may, there is, in addition, to be provided, either beforehand, or from time to time as needed, the large quantity of treble as much other timber, consisting generally of white oak, pine, larch, cedar, locust, and elm, but which, being more perishable, and more widely diffused over the country than live oak, and not usually costing more than one-third as much per foot, does not attract so much public consideration.

Our proceedings, in respect to the timber other than live oak, under the act for the gradual improvement of the navy, whether in reserving public lands on which it grows, or in purchasing it for deposit, and all our actual means, and our true policy as to obtaining hereafter the other kinds of naval timber, do not come within the scope of this communication, and, consequently, are not now detailed. But, as their quantity must be so large as three-fourths of the whole consumed, this circumstance renders the subject worthy of much attention, and enforces very strongly the expediency of securing now in live oak, while the opportunity continues in our power, at least a quarter of our whole future wants.

This is peculiarly incumbent on us, when we are able to secure it in such an invaluable kind of timber as, being placed in a due state of preservation, will probably remain sound for ages.

The difference between the duration of vessels built of timber recently cut, and those of timber in this way well seasoned, is generally computed at about one-third in favor of the latter; and, in respect to live oak, is greater than one-third; and alone furnishes another strong argument for a continuance, as well as an enlargement, of the present policy of procuring long in advance, and of thoroughly

seasoning by immersion in water, and then by sheltering under sheds, the whole of our live-oak timber designed for naval architecture. From all these data, it appears that all our annual wants, while our present force and present policy remain not essentially changed, will amount to about 62,286 cubic feet of live-oak timber. This is 3400 feet for small ordinary repairs; 25,886 for rebuilding to supply accidental losses, and great natural decay; and 33,000 for deposit for gradual improvement.

In order to ascertain how this quantity is hereafter to be obtained, it may be useful first to advert a moment to the whole aggregate amount of our supplies of live-oak timber heretofore procured, and the manner and places in which they have been procured. As before stated, we have heretofore purchased, in all, about 168,000 feet of live oak, for repairs; about 974,363 cubic feet, that has been made up into vessels; and about 431,845 feet now in depot for gradual improvement, exclusive of repairs.

The only deficiency in this amount arises from some small quantity of live-oak timber in depot during the late war having been used in the ordnance service for gun carriages and platforms, and about 15,000 feet having been destroyed in the conflagration in this city in 1814. Both of these quantities did not probably exceed 20,000 feet. The whole amount of our supplies, then, heretofore obtained in any way, and from any quarter, having been about 1,594,208 cubic feet, these would, on an average, be about 45,549 feet per year, and about one-fourth less than the whole quantity per year estimated as proper and necessary to be hereafter obtained.

These supplies have been procured nearly in the following manner and places: From 1797 to 1800, the demand for live oak for public use was new and considerable, and was chiefly satisfied from the islands and coasts of Georgia and South Carolina. From 1801 to 1816, but little of this kind of timber was obtained in any place for the navy; but all which was obtained, down to the last-named year, was cut principally from private lands, except what came from Grover's and Blackbeard's islands, which, having been purchased by the government, were afterwards allowed to be stripped of their timber, under contracts with individuals. Even down to 1822, most of this kind of timber procured for the navy, though soon after the late war, to a very large amount, was purchased by the contractors, from private lands. The chief exceptions were as to what grew on the above islands, and some small quantities cut on the public lands in Louisiana.

In 1817, the government began to adopt means for preserving their live oak in Louisiana; and, between that date and 1822, explored and reserved about 19,000 acres of public land, the growth on which was supposed to remain uncut as late as 1827. (Report No. 114, House of Reps., Jan. 29, 1827.)

Since the purchase of Florida, in 1822, the quantities obtained on

public as well as private lands have been great; but since 1826, as attention to the preservation of timber on the former has increased, most of the live oak used has been cut from the latter. A little reflection on these facts will enable us to calculate with greater confidence in respect to the probable and best manner and places of obtaining our future supplies.

Notwithstanding the purchase by this department of so large a quantity of live oak since 1797, and especially since 1816, besides all of this kind of timber which has been used in the merchant service during that period, either in this country or shipped abroad, yet one striking and in some degree controlling circumstance appears, which may serve to test the accuracy of all opinions on the extent of our present resources in live oak. The prices given by the government continue about the same as in former years, or, if essentially changed, have become somewhat lower, and would seem clearly to evince the little difficulty which, as yet, has existed, or is likely immediately to exist, in so wide a range as from South Carolina to the Sabine, in finding chiefly, though not entirely, on private soil, an adequate supply for our usual wants.

The prices for live-oak timber delivered at our yards in A. D. 1799, and of a size suitable for ships of the line, were $1.33 per cubic foot. But some of the contractors at that price failed to fulfil their engagements; and it is reported, though the defective state of our early records does not enable us to ascertain the truth, that those who did fulfil their engagements obtained additional allowances.

In A. D. 1801, the Secretary of the Navy estimated that this timber, when so delivered, would cost $2 per cubic foot, if suitable for ships of the line. Nothing further on this subject can be found, till A. D. 1816, when we paid for live-oak timber delivered, $1.55 for frames of seventy-fours, $1.42½ for those of frigates, $1.15 for those of sloops, and $1 for promiscuous timber. In A. D. 1826, we paid for the second description of frames $1.20 and 1.25 per foot, and the former price for the last kind of timber. In A. D. 1827, we paid for the first kind $1.37 and $1.50, for the second $1.25 and $1.45, for the third $1.15 and $1.25, and for the last 80 cents and $1. In 1829, for the second $1.30, and for the last 87½ cents; and offers have been made the present year, and accepted, for the second, at $1.09 and $1.50, and for the last at 87½ cents and $1.

Originally the prices may have been somewhat enhanced, from the circumstances that the freight of the timber was somewhat higher than it has been of late years; that the supply of live oak was then, and probably would continue to be, more limited than subsequent explorations and acquisitions of territory have shown it to be; and that the government then owned no public lands yielding live oak, and enabling it to prevent individuals from exercising an undue control over the market. But it is to be remembered that some of the contractors at the first prices did not feel able, at that rate, to fulfil their engage-

ments, and that, between A. D. 1799 and A. D. 1816, all kinds of ship-timber on sea-board have generally been supposed, from the increased settlement of the country, and the augmentation of our commercial tonnage, to have risen about ten per cent. We may have been, in this respect, somewhat imfluenced by the foreign demand, and may, on this point, derive some instruction from a moment's attention to the fluctuation of the prices of naval timber in England, during about the same period. There, in A. D. 1792, a careful examination of her domestic resources resulted in a conviction that a scarcity, especially of large timber, had begun to prevail; and from that year to A. D. 1811, the prices rose over one hundred per cent. This probably happened, not only from the above scarcity in her home production, but from increasing difficulties, in her long wars, in obtaining supplies from other countries, and from a larger demand to construct and sustain an enlarged navy. But, in A. D. 1811 and 1812, the prices which, from about £3 sterling in 1792, had risen to £11 and £12 sterling per load, or about $1.28 per cubic foot, began to fall; and in A. D. 1814, it was testified before a committee of Parliament, that the extension of canals into the interior to new forests of oak, the improved attention to thinning out the oak, which had ceased to be thrifty in the old forests, hedge-rows, and parks, and the new plantations, which had been made in consequence of such high prices, would probably, without much necessary importation of foreign oak timber, furnish an ample supply of it in future. Accordingly, we find that prices fell nearly one-half between 1811 and 1819, as relates to domestic timber, and about one-third as respects foreign timber.

In this country it is well known that, during the last eight or ten years, the prices of most articles have nominally fallen; but the particular causes which have effected it need not here be examined, as they are not believed to have had a very material operation on the cost of live-oak timber.

To pursue the general inquiry concerning the probable sources and extent of our future supply, I see no indications of the length of time that we should be able to obtain it from private lands, except what may be derived from the low prices at which it is now procured; the quantity reported by the agents to be still remaining on private lands between the St. Mary's and the Sabine rivers, and on which some further remarks will hereafter be offered; and the general information as to the whole private supply derived from other quarters.

Having noticed these prices, and the quantity reported by the agents within the above limits, it only remains to be stated under this head, that the general information I have been able to collect about the private supply is, that no great quantities of live-oak timber suitable for ship-building now remain on private lands in Georgia and South Carolina.

Some trees, too small for cutting thirty years ago, have since reached maturity, and a few are now standing in some of their forests,

and especially on some of their islands. In certain places, the natural growth on land, cut over from 1795 to 1801, has been permitted to spring up and remain; but generally, the live-oak lands in those States being valuable for cotton and other crops, have been brought into cultivation.

The quantities on private lands in Florida, Alabama, Mississippi, and Louisiana, are, without doubt, much greater than in Georgia and South Carolina, and even greater than the results presented in the second tabular statement.

Because all the districts have not yet been fully explored by our agents, and because their instructions, except in peculiar cases, did not require them to report, so far as they have explored, all the live-oak trees suitable for ship-timber, growing on private lands.

Extending south-westward of Louisiana, some recent explorations in Texas favor the opinion that this kind of timber exists there in considerable quantities; but I am not aware that our contractors have yet obtained any from that province, or any other foreign source.

Should the prices of this kind of timber rise much hereafter, some of it might perhaps be purchased there to advantage, though a dependence on any foreign supply, for reasons hereafter given, would be very injudicious. In the event of a great increase of price, individuals within our own boundaries would be tempted to the more careful preservation, if not to the artificial cultivation of it, in the most appropriate situations.

But, under existing circumstances, it would be unsafe to rely on individuals, either to preserve long what now exists on private lands, or to create a larger supply; because it would not be an object of profit to them either to save or to cultivate artificially the live-oak tree merely for sale, unless the prices of this kind of timber should become much higher, or the common cultivated products of the soil on which this tree is indigenous should become much less valuable.

In England, the lands on which oak, to advantage, can be planted, or reserved for profit alone, are generally considered such as could not yield, in cultivation for grain, over fourteen shillings, or about three dollars and thirty-six cents rent per acre; and the timber must sell, standing, at the rate of three and one-fifth shillings, or seventy-six cents, per foot.

The bark is valuable here, as well as there; but the loppings and trimmings, which are of much importance there, are here entirely worthless. Besides this, most of our live-oak lands cost much less than oak lands there, are less burdened with taxes, and, when cleared, have formerly yielded large and profitable crops, though not, perhaps, equalling the English gross income per acre, under the operation of her corn-laws. Furthermore, the live-oak timber on our lands has often sold standing at only twenty-five cents per foot; and, from the eagerness to clear and cultivate rich lands in a new country, has sometimes been sold at ten cents per foot. Indeed, purchasers, when

wanted, are sometimes not found at any price, and the tree is then either girdled, and thus destroyed, or cut and consumed, in a laudable eagerness to obtain room for cultivated crops. But should the prices of cultivated crops at the South continue to fall, as during a few years past, and should the prices of this kind of timber rise, then it will be seen that a point may be reached where the timber crop would be more profitable than the cotton or sugar crop; and not till then will the live-oak tree become either well preserved or well reared on private lands.

As circumstances now are, it is highly probable that most of the live oak at this time growing on private lands, and on such of the public lands as may hereafter be sold and become private (the timber on them not being so valuable as to justify their reservation), will, as fast as the country shall become generally settled, be offered in the market to supply the demands of the navy, and of the merchant service.

Though live-oak trees are generally either in detached hammocks, or very sparsely scattered, at remote distances, over the regions suitable to their growth, yet the whole quantity of timber that will, in the above manner, be offered for sale from private lands, must probably be considerable for some years.

Without taking the islands and coasts of South Carolina, Georgia, and Texas, into the following computation, there is a tract, from the St. Mary's to the Sabine, of over 1300 miles in length, and about 20 in width, on which, in many places, the live oak is known to grow spontaneously. Of more than seventeen millions of acres within that tract, individuals are now supposed to own nearly one million. In ten or fifteen years, as the disputed titles become settled, and the public lands not reserved are put into the market, individuals will probably own six or eight millions of acres. Whatever of these trees may be found on many of the forest parts of these six or eight millions of acres, though generally much scattered, and often so remote from water transportation as to be of little value, and what few may be obtained from other places, before enumerated, must furnish all the estimated supply from private lands. Most of this timber, within our own limits, may be deemed secure for the public service, if we choose to purchase it, at its high price, in the first instance, compared with that of other timber, being about treble in amount, and the prejudices or supposed interests existing against its use among the mechanics engaged in ship-building, have generally prevented its very extensive employment in the construction of other than public vessels. But some of this timber growing on private lands will doubtless continue to be worked up in the merchant service; and, as the owners of vessels look to their remote interests, its use, in this way, will increase. In general, however, it will not be of the most valuable and scarce dimensions, because, whatever may become the extent of its use here in private vessels, the more abundant the small and cheaper pieces, not suitable for the larger rates of public vessels, will usually, though not invariably, be employed for private ones.

It would give me much satisfaction to form an estimate, on which perfect reliance could be placed, as to the precise number of years this supply, which we may obtain from private lands, would probably meet our naval wants; but I have not sufficient data for that purpose. A similar though not so great difficulty exists in ascertaining how long the timber growing on public lands will, without artificial cultivation, suffice to supply our annual demands, when it shall become necessary or expedient to resort to that source.

But such further information as I have been able to procure, bearing on both these points, it is deemed proper to present, in order that Congress may have embodied in one document all the data which the department possesses, and which appears entitled to some consideration before forming anything like a decisive opinion on those interesting points.

A table was prepared, in A. D. 1830, of all the live-oak timber which, before A. D. 1819, in a small part of Louisiana, and before A. D. 1827, in South Carolina, Georgia, and part of East Florida, had been examined and reported by former agents, as growing on either public or private lands.

The quantity in that small part of Louisiana was computed at 350,000 feet; the quantity in the other places above named was computed at 734,200 feet; making an aggregate of 1,084,200 cubic feet. But, in December, 1830, the navy board supposed some of the former, and large portions of the latter, had been removed. Much of the latter was also supposed to be old and decayed. It will be seen, likewise, that most of the latter was growing on private lands. (Doc. 178 of House of Reps. in March, 1832, pages 25, 26.) In February, A. D. 1831, a further table was prepared from the reports of agents, from actual examinations in West Florida, giving a result, so far as then examined and reported, of 1,130,655 cubic feet more.

The Secretary of the Navy, at that time, supposed there existed on both public and private lands, which had then been examined, about 2,214,855, cubic feet. (Rep. No. 102, page 68.) But the imperfection of all the examinations which had been made in East Florida, and the absence of any examinations in the greater part of West Florida, Alabama, Mississippi, and most of Louisiana, and the ignorance of what portions grew on public and what on private lands, and what had been cut and removed from either since former examinations, in 1819 and 1827, led to a new system of districts and agents, whose chief duties were to make a further and full examination and report of the whole live-oak timber which might be found still to remain on lands belonging to the public, and of the most valuable lots of this kind of timber noticed on private lands. The result of those examinations and reports, so far as completed, has before been detailed. These examinations have been completed in the third and the fourth districts, and principally in the fifth and sixth districts. In the others, extensive tracts remain yet to be explored, and especially in the first district,

between Cape Sable and Cape Florida, and in the western part of the seventh district. It is represented that large quantities of valuable live-oak timber exist on the public, and some on private lands, in those regions which have not yet been accurately examined by the present agents, and hence are not included in the tabular statements.

In the seventh district there are known to be, on islands examined in 1819, many trees remaining, but not yet reported by the present agent for that district; and on other lands similarly situated, a further number seen, and estimated at about 85,000, in A. D. 1831, by one of our navy officers.

By recurring to the limits of the several districts, as described in the communication from this department, at the last session (Doc. 102, F. No. 2), and as laid down on the map, it can be seen what parts remain to be examined by the present agents. It is probably about one-third of the whole.

Taking, then, only the medium estimated quantity of 448,750 feet of timber, examined and reported by the agents as remaining on private lands, without including Georgia, or South Carolina, or any allowance for the one-third not yet explored, and it would, if all procured for the navy, supply all our demands, estimated at 62,286 feet annually, during seven or eight years. Making every reasonable addition to, or deduction from, the above estimated quantity, and every due allowance for such portions of that quantity as may be sold to the merchant service, and for any other considerations, it is still manifest, from all the facts before us, that our probable annual wants can, for some years to come, be chiefly supplied by purchases of live-oak timber growing on private lands. But whenever the prices of this kind of timber shall rise, so as to indicate a great scarcity on private lands, and an unwillingness or inability, even at those prices, in individuals, either to preserve or to cultivate its growth, for sale, fast enough to meet our annual demands, I think it will then become our true policy to permit the older and larger trees to be removed, for the public use, from the public lands. Even before that event, those trees on the public lands which have begun to decay, or from any cause have ceased to grow, might be sold advantageously to the contractors, in aid of the other supplies obtained, from time to time, from private sources.

Should a removal, in this way, be enough to satisfy the balance of all our annual demands, our resources would thus continue inexhaustible for many years; or until the private sources so fail that this mode of cutting from the public lands will not furnish a sufficiency for the balance. But if a further indiscriminate removal should become necessary to supply the full amount of all our annual demands, and if we take as correct the medium estimated quantity of 7,232,750 feet of timber, examined, and reported by these agents as now remaining on the public lands, without including any allowance for what may be found on the above mentioned one-third of these lands not yet explored by them in some of the districts, that quantity would supply the whole

extent of all our annual demands, as at present computed, during about one hundred and sixteen years after the private resources entirely fail.

But it would hardly be found necessary or judicious to retain the whole or any large portion of the sixteen millions of acres of public land in the live-oak region, in order to secure the whole of this timber, and then to resort to indiscriminate cutting for a supply of our wants, on the hypothesis that the tree would be spontaneously reproduced on so large a tract, as soon as it again would be wanted for use. On the contrary, it has been found more economical and useful to reserve only such tracts as are nearest navigable waters, and yield the most and largest trees to an acre; because it is only on such tracts that the value of the timber, when standing, will exceed the usual price of the land; and because nearly, if not quite, a sufficiency of such tracts to furnish all our demands may require, can probably be found within the live-oak region, and will not include more than a hundredth part of it, as necessary to be reserved, according to some further data, which will soon be presented.

But, however this may be, a different course from that of an indiscriminate removal of this timber from the public lands reserved would seem to me proper, when private resources shall principally fail. Then our annual demands may have become increased by a larger force in commission, or reduced by some diminution in our wants of timber for frames in depot; yet, whether larger or smaller, should the removal from the public lands of only the older and larger trees, and of those which, from any cause, have ceased to grow, not be succeeded, as fast as our demands require, by a sufficient supply, through the careful preservation and the enlargement of the younger and spontaneous growth on the public lands, and through the means and enterprise of private cultivators of the live-oak, it will then, in my opinion, become judicious not to cut over our own reserved lands indiscriminately, unless we find our reservations prove large enough to reproduce, in due season, all the timber our wants may then, and probably in future, require. In any other event, we should, to avoid exhausting our supplies, adopt the plan and incur the expense of artificial planting, thinning, and pruning, so far as may be then computed necessary, to make up a full and seasonable provision for all our necessities. This should, of course, be done in situations on the reserved public lands adjoining navigable waters, and in all respects most favorable to success. If we ever become obliged to cultivate this tree extensively, I think this "plan or system," pursued in the manner hereafter detailed, will, in the language of the resolution now under consideration, be "best calculated to secure to the nation an adequate supply of this material." In appropriate soil, the sprouts from the roots and stump of the live oak are found to be very numerous and thrifty; and the preservation and trimming of the best of these bid fair, from experiments already made, both here and abroad, to succeed better than the transplanting

of saplings, or the planting of the acorn, in the place where the tree is intended to grow. Should the sprouts not vegetate spontaneously in situations where wanted, then, of course, the planting of the acorn, or transplanting of saplings, would, in these situations, become necessary. From these sprouts, in a good soil, it is computed that, in fifty years (about the duration of the live-oak timber in a vessel), trees will grow of an ample size for ship-building; though in poorer soil, and from the acorn, seventy, eighty, or one hundred years might be necessary. The trees, as wanted for use, should be cut and removed only as they reach their full size, or are found too thick for a luxuriant growth, or from any cause have ceased to be thrifty. Experience abroad has shown, also, that, after an oak-tree has ceased growing, though it may remain standing for many, and tradition says, of some abroad, hundreds of years, without material injury, yet it is more economical, and the tree is better for naval use, if, soon after it has ceased growing, it be cut, and the timber placed, first, in dock, and afterwards under cover. Such trees not increasing in size or value, might, as before remarked, be sold to advantage to contractors, before a general resort is had to other trees on the public lands; and their places could be profitably occupied by new trees springing up, and annually increasing in size and value.

But, in reply to an inquiry made by the committee on live oak, of the last session, on the subject of cutting and depositing timber in sheds on the soil where it grows, I have no doubt, from the cost of building sheds on the ground where the trees are cut (Doc. No. 85, Ho. of Reps. 19th Cong. 1st sess.), and the inconvenience, in an exigency, of not having our deposits of timber at the places where it may be wanted for use, that the best policy will be to remove our timber to the latter, soon after being cut, rather than to put it in depot on the lands, at a distance from the ship-yards where it will be wanted for use.

From twenty to thirty trees to an acre are as many as should be left to grow to maturity. They are seldom found in their natural state, of full size, with half that number on an acre, because many young trees get destroyed by various means; the whole soil, in any one acre, seldom produces the live oak spontaneously, and trees of different species are often found intermingled with it.

Another mode of computation may serve to illustrate our sources of supply, before being compelled to resort much to any artificial system of cultivation.

It will be recollected that our whole annual demands have been estimated at about 62,286 feet; and this, at the medium rate before mentioned, of fifty feet per tree, would require, yearly, 1245 trees; and at only twenty trees per acre, or half the proportion allowed of English oak, in artificial plantations, would include the growth of sixty-two acres annually; and calculating seventy-five, the average between fifty and a hundred years, as necessary to reproduce the live oak after

once cut down, it would take only 4640 acres to meet our whole annual demand of live oak in all future time, at the present size of our force afloat, and on our present policy in providing for its gradual improvement. But this estimate is not, in my opinion, sufficiently large as regards the number of acres which may probably be required, in their natural condition, to supply all our wants of live-oak timber.

From the peculiar character of the growth of the live oak in detached hammocks or trees, and from our system of surveys into only sections, halves, and quarters, the lands hitherto reserved on account of their live-oak timber do not generally contain over two trees to an acre, on an average; and in very few cases are there over five full-grown and sound live-oak trees on an acre, taking the whole of any one reservation. (No. 102, page 80, Feb. 1831, Rep. in Ho. of Reps.) Considering, then, that two such trees to an acre, in the manner of its natural growth, and of one reservation, is a more correct estimate than twenty,—and that, in such case, fifty feet to a tree, the medium computation, may not be too high, but rather below than above the truth, as to the size of this monarch of the forest, and allowing the largest time of a hundred years for a tree to reach maturity,—it would only require us to reserve in all 62,286 acres, to enable us hereafter, without the purchase of more trees or more lands, to have an inexhaustible source of supply of this important material, for a navy not larger than our present establishment. Computing only twenty feet to a tree, the smallest estimate, and the number of acres should be increased to 155,710. Computing eighty feet to a tree, the largest estimate, and the number of acres would be reduced to 38,900.

In order to meet the contingencies and injuries from fires, depredations, and other causes, and especially from the probable failure hereafter of our title to some of the lands reserved, it may be judicious to reserve, in all, at least, 160,000 acres of live-oak timber-land, which will be nearly three per cent. more than the largest number of acres I have before estimated, and sixty per cent. above the quantity deemed probably sufficient or necessary for our present demands, and present policy as to gradual improvement. Pursuing this course, should we hereafter find that we have a large surplus of timber, some of the reservations ascertained to be least valuable for their live oak can be sold to advantage for cultivation; and if both lands and timber should rise much in value, still further and profitable sales could be made of the lands, as the timber is removed from them. In this event, or in case of our demands for live oak becoming likely to be much enlarged at any future time, artificial cultivation could be resorted to on the best reserved lands left, so as easily to increase, in due season, double and quadruple their natural produce of live-oak trees to the acre.

We have already reserved, within a few years, 67,417 acres of live-oak lands, and, on the most liberal estimate as to a sufficiency, in their natural state, should reserve less than 100,000 acres more, to

supply forever all that may be required by the demands and policy before mentioned.

More than this further quantity has already been recommended by the agents for reservation, on account of the valuable growth on it of live oak, and most of which has not yet been reserved, in consequence of its not having yet been surveyed. The 19,000 acres reserved long ago as 1819, in Louisiana, and not yet reëxamined, may be found still so covered with timber as to justify a reliance upon that as a part of the further quantity needed. (Doc. 178, in March, 1832, pages 25 and 26. Rep. No. 102, page 71, Feb. 1831.)

In England, it has been computed that only 102,600 acres, in artificial cultivation, would be necessary to supply the whole wants, in oak timber, of their vast naval establishment. But, to draw any just comparison, it must be noticed that oak is understood to be about three-fourths, instead of one-fourth, of the whole timber used by them in the construction of public vessels; that their computation of 102,600 acres rests on the estimate of forty instead of two trees to an acre, and allows only ninety instead of one hundred years for the full growth of a tree; while, on the other hand, it calculates the size of the tree but forty-five feet on an average, and the duration of a vessel in commission at only twelve and a half, instead of twenty, or forty, and perhaps fifty years, and estimates that one-quarter of their annual wants will be supplied by prize ships. Should we be able to reserve or purchase, and then cultivate artificially, other lands, with the like number of other kinds of timber-trees per acre, and of the like size and durability with those in the estimates in England, we should need only about 15,000 acres of other than live-oak lands for all our present naval wants in other kinds of timber. Or, if all parts of our vessels were built of like materials with theirs, we should need, in artificial cultivation, only about 20,000 acres, to furnish a constant and durable supply of all kinds of timber for our navy afloat, while we continue to pursue the policy before mentioned, as to its size and improvement. This is a ratio of about one-eighth of what is computed to be wanted, in England, of all kinds of naval timber, from all sources. These considerations strengthen my conviction, that the above estimate, in respect to our proper amount of reservations of live-oak timber-land, is ample for our wants as at present existing, or soon contemplated. But the extent of our reservations already made, and able to be made hereafter, as our surveys are extended, will probably enable us easily to enlarge the quantity, to any amount which other persons may, from these or any different data, deem essential.

At the same time, I am fully convinced that, whenever we reach a condition rendering artificial cultivation necessary for a full supply of our reasonable wants in live-oak timber, whether sooner or later than seems probable from any data furnished in this report, the expense of that kind of cultivation, to the full extent requisite to furnish that supply, ought not to be permitted to deter us from undertaking it,

because I consider live-oak timber as invaluable for frames in naval architecture; and a supply of that, or any good substitute from abroad, would not only render us dependent in so essential an article for national safety, but become very precarious when most needed in war, and be much more costly than the artificial cultivation of the live-oak tree on our own soil, where it is indigenous and luxuriant. Besides the independence which would be thus secured for one strong support of one great arm of our country's defence, we would not appear to depart, as facts now are, from a maxim in political economy, generally sound, to obtain all our supplies "of the best quality, and at the lowest prices," whether at home or abroad. The live oak is a supply "of the best quality," because it is superior in strength, resistance, and hardness, to the celebrated British oak, which forms "the wooden walls" of England. It is, when used for frames, much more durable than that, or even cedar, which the ancients called "the everlasting wood;" and in some qualities surpasses the teak of India, which is confessedly the best timber for the greatest number or variety of naval purposes that the research of man has yet discovered. It is a supply at the "lowest prices," also; because British oak, if we could obtain that, would probably cost now, at the port of exportation, exclusive of freight here, about four shillings, or ninety-six cents per foot, when the live oak costs, delivered here, only about $1.20 per foot, on an average; and will last twice, if not thrice as long, and require only about one-third as much for annual repairs. Our own white oak, at forty cents per foot, could probably be had in considerable quantities for frames of vessels; but it is somewhat less durable than the British oak, and is, obviously, for that reason, coupled with the increased expense for labor, as well as materials, in frequent repairs and rebuilding, much less economical than the live oak. The teak, procurable sometimes in Africa, but chiefly in India, and there at over half the price of our live oak, would not, with profit, bear the long transportation to this country, as it will not from India to England, except when made up into vessels, and earning freight.

These comparisons are made on existing prices; but should the present rates vary much hereafter at home, the change may, or may not, extend in a like ratio to prices abroad, when it shall hereafter become necessary to cultivate the live oak, or to seek a substitute; and, of course, the influence of this consideration, as respects the lowest prices, cannot now be calculated accurately for any period except the present one.

Besides the reasons above suggested against any dependence on foreigners for a supply of so important an article, or any known substitute for it, and even against an entire dependence, for either of them, on the foresight and enterprise of individuals at home, it should be remembered that deficiencies during one or a few years, in other naval materials, such as iron, copper, cordage, canvas, &c., however happening, can, in general, be soon remedied by a larger production or manu-

facture; but deficiencies in this kind of timber cannot be remedied by producing more in a shorter period than one-half or three-fourths of a century; and hence it becomes an object of great public moment to make or insure a suitable and independent provision, long beforehand, of an article so necessary, and so entirely within our own resources.

Of the success of the above mode of artificial cultivation, or of the mode from the acorn, or by transplanting, I entertain no doubt, should it ever become necessary to resort to either of them. Some experiments in this country with the live oak, in the first and last modes, have terminated favorably; and in France and Spain, as well as in England, many trials, chiefly of a species of white oak, and for naval purposes, have on a large scale, and in all of these modes, proved in various degrees successful. When, between 1794 and 1812, timber rose gradually in England from £3 and £4, from which it had not essentially varied during a century, to £8 and £10 per load, the attention of government, as well as of individuals, became more directed to its artificial cultivation. The government, which, in 1792, had refused to set apart and plant in all, for future public use, 100,000 acres, then recommended by the commissioners of woods and forests, had, within a few years previous to 1812, planted 16,000 acres more than they before cultivated for timber. After the increase of their navy towards the close of the sixteenth century, and after the great destruction of timber about the middle of the seventeenth century, partly arising from increased wants, and partly from a diminution in that reverence, which had been almost Druidical, for the oak in forests, parks, and ornamental borders, they found a great scarcity commencing, and large plantations were made, chiefly under the advice of Evelyn, given on application of "the principal officers and commissioners of the navy."

The trees on these plantations, having reached maturity, had been chiefly cut down before A. D. 1811. It is said that when the new plantations were made, about 1811, all the old public forests and plantations had not yielded, for many years, 50,000 feet annually. In A. D. 1829, they added to their plantations 2700 more acres, and had, in all, for the growth of navy timber, in February, 1831, about 52,852 acres of public land. (13 v. Parliamentary Accounts, 820 page.)

But the resources to be derived from these new efforts by the government, commencing about 1809, could not be available, to any great extent, under half a century more; and in the mean time supplies were to be drawn chiefly from private lands at home, and from foreign importations. Importations from 1760 to 1788 had constituted about one-tenth of the whole consumption in their navy, and in 1802 they had become about one-fourth. From 1812 to 1819, the average consumption of foreign timber, for all purposes, increased so as to be one-third larger than it had been from 1799 to 1811 (Report on Foreign

Trade, 1829, appendix 153), and from 1820 to 1830 it nearly doubled in amount. (Parliamentary Debates in 1831, pages 456, 566, 882.)

These great supplies from abroad, sometimes from Brazil, and sometimes from Africa and the Adriatic, though oftener from the Baltic and America, have not only evinced the extent, the excellence, and variety of English resources abroad, and part of them in her own dependencies, but have contributed, with the high price of land in England, the great incidental expenses of managing their forests and plantations, the long time for the oak to reach maturity, and the reduced prices of timber from such large importations, to check somewhat the favorable opinions generally entertained there towards the continuance of a system of artificial cultivation by the government. Indeed, some persons have lately proposed an entire abandonment of it, and a sale of the lands for clearing and ordinary cultivation, as better comporting with economy, and the probable facilities of obtaining sufficient and cheap supplies in future from other sources. (Mathews, 82 page, on naval timber.) But our situation, as to live oak and live-oak lands, as well as other sources of supply, is, and hereafter may be, very different from that of England.

The growth of live oak is, in a great measure, though not entirely, confined to our own country, and none of our supplies have ever yet been obtained abroad. The superior quality of this timber prevents our procuring abroad, at any reasonable expense, a useful substitute; and a state of war, from reasons very obvious to most persons, would affect and impair any foreign supply we might seek, much more than it would that of England, while the condition of our live-oak soil, owned by individuals, prevents the hope of their making any effort, at anything like the present prices, to preserve or rear, as is often done abroad, a domestic supply beyond the timber now growing. The low price and great abundance of our public lands, on which the live-oak tree spontaneously thrives, will probably enable the government long to obtain from them a sufficiency to meet all our demands for it, without much attention to its artificial increase; and, in any event, to cultivate it so far as at any future period may be found necessary, at an expense comparatively small.

But, on the facts and estimates herewith submitted, imperfect and inaccurate in many respects, yet as little so as practicable, I can see, in order to secure for our navy, while of its present size, an adequate supply of live-oak timber, no occasion, at this time, either to make further purchases of private lands on which this tree grows, or to carry the artificial cultivation of it, on any of the public lands, beyond what has already been attempted.

With much respect,

LEVI WOODBURY.

To the Speaker of the House of Reps.

LIFE AND CHARACTER OF ANDREW JACKSON.*

My Fellow-citizens:—This is no ordinary occasion, when a whole nation is in mourning. The solemn toll of the bell, the funeral dirge, the shroud, the crape and the minute-gun, all over every hill and valley of our wide republic, bespeak some great public loss, as well as public grief. We come together this evening to express, in language still stronger, if possible, than these melancholy tokens, our own deep sense of the bereavement the country has sustained in the death of one of the noblest of her children.

It is no overstrained eulogy to add, that so many testimonials of respect and real love from a whole people would be offered, at this time, to the memory of but a single man on the western continent. That man, the history of all around tells us, was the hero of New Orleans. He is no more. The victor *in a hundred battles* has at last fallen. The pilot *who weathered the storm* in the fiercest hurricanes of political strife, looks no longer to the compass or the clouds, to guide us; and the Christian, as well as sage and patriot, of the Hermitage, who still prayed for his country after the power to do aught else had ceased, has gone to his great and glorious reward; while we linger a little longer, to offer, it is hoped, some deserved tribute to his memory, and try to profit by his bright example.

How can we do this best, in the few mournful moments now allotted to that object?

Most of the incidents in a life so distinguished as that of General Jackson are too familiar to make a repetition of them either necessary or useful.

We all, from lisping childhood to palsied age, know that he was one of the survivors of those who bled in our glorious Revolution; and that his character was one of that strong cast, run in that iron mould, formed amidst its trials and dangers. We have all heard, when not seen, of the hardy habits and almost heroic powers which belonged to

* A eulogy delivered at Portsmouth, N. H., July 2d, 1845.

that great struggle, and which, so strikingly embodied in the majestic form of our patriot chief, lived to bless a later age, and aid our country in other trials of the cabinet, as well as the camp. Statuary and painting and history, no less than the school-room, the humble fireside, the village-husting, and every anniversary of the independence he helped to win and defend, have all vied in making us acquainted with the principal outlines of his figure, his mind, and those signal victories, both in peace and war, that have enrolled him so high among the warriors and statesmen of the era he adorned.

We all know, also, that, retiring from the public stage, covered with the plaudits and honors of a grateful people, he has for years pursued the peaceful employment of a planter, shedding a benign influence, by his example on all around him; and, though not mingling in the turmoil of politics, still lending an anxious eye and heart to advance his country's greatness, till the lamp of life at last burnt out in its socket, and, in sight of the grave of her he loved best, his spirit departed to join hers, as he hoped, in a happier and holier abode. Thus did the patriarch sink to his last rest.

But after the close of such a life, all is not over with it, even here. Though the cold clay sleeps as insensible to our praise and grief as the veteran's sword in its scabbard, though

> "He knows not — he heeds not" — and
> "No sound can awake him to glory again," —

yet such a life is still powerful; it continues to speak to the world. And a fit, a grateful, and a beneficial inquiry is, What does it speak? What lessons do its thrilling trials teach? What were its great characteristics, tendencies and example? What do we derive from it of good, and what are the private and public obligations to its memory, both of ourselves and our posterity?

Whether we look to his early years, or to their meridian splendor, or their beautiful close, they seem to me equally full of instruction.

Without the wealth or powerful connections which, even in republics, are sometimes passports to fame, he first appeared on the theatre of public action as an orphan. However inauspicious this may have seemed for that brilliant destiny which afterwards awaited him, he soon displayed an energy and perseverance, in laying the foundations of an education, which are full of encouragement to the most lowly and unfriended. How much was his condition at that time emblematic of his country's! Both surrounded by privations and perils, and both, by the exercise of those vigorous efforts which deserve success, soon enabled to emerge, and, through many adverse gales of fortune, advance to those high honors and greatness which have since crowded their career!

After a hurried preparation for the bar, he soon becomes launched into the breakers and storms of professional life.

Only a few years, spent in the agitating scenes of business, were necessary to develop his integrity and genius in such bold relief as to attract that general confidence which paved the path to so many responsible trusts.

His companions at that time have mostly gone before him to a better world; but I have frequently heard the late Judge Anderson describe the early appearance at the bar of the future hero and president.

Prominent among his characteristics were the same inflexible fidelity to the interests entrusted to his care, as since; the same watchful preparation and modest courage which marked him in the discharge of all duties till the close of his eventful career.

But the teachings of his meridian life were more conspicuous. As the conqueror of the Creeks, the defender of the Mississippi valley, the chief magistrate of a great people, the sun of his fame, ere long, lighted the whole horizon. New scenes constantly developed new traits of character; new trials elevated him still higher in popular favor; new victories in the cabinet, as well as the field, crowned him with new laurels from Europe, no less than America; and if any man, left among us till the present age, can be said to possess a European reputation as a warrior or executive officer, it is he who, with raw militia, vanquished veterans flushed by foreign triumphs, and who piloted the ship of state safely through political storms that made the stoutest hearts quail.

These tests of his maturer years were useful, if not necessary, to fix his character for patriotism above all suspicion. And the labors performed in these, often so herculean, and all the sacrifices made and tribulations endured, evinced such devotedness in duty, and were accompanied by such tried honesty of purpose, that many of every party and sect over our wide republic now hasten to bestow grateful commendation for those high qualities, however differing from him, while alive, on many points of public policy or private belief. How beautifully, in some cases, did the checkered scenes of his middle age ripen what were only natural impulses in youth, and mature them into settled principles of action, and impart to them a modified, softened and moral tone, calculated to render them useful guides to future generations, and leave a deep impress behind on our national character and national institutions.

But, in some respects, still more attractive were the features in the last period of his career. The closing scenes of the drama show office and pomp voluntarily relinquished; domestic pleasures and deeds of humble usefulness sought for; all the tender charities of life and neighborly friendships cherished; religion illustrated in his daily walk, as well as professed at the altar; his country still near and dear, and

her welfare watched over with parental solicitude; acknowledgments and memorials of respect for benefits conferred a daily solace in his retirement; and troops of friends, spared to the end, to soften the pillow of declining health; and all brightened still higher, in his departing moments, by the richest hopes beyond the grave.

What a beautiful progress in improvement, and usefulness, and true glory, from the dawn of life to its close! What a happy destiny and example! And how admirably does the grave, thus closed, bury in its bosom most of the enmities and jealousies of a turbid life, and tend to harmonize his countrymen in paying just tributes to his memory, and in feeling a pride in those high qualities which have reflected no less honor on the land of his birth than on himself.

But there are other aspects of his character very impressive.

Viewed in some prominent capacities or pursuits, rather than in the different stages of life, his destiny has been no less interesting, and is more familiar to the minds of most of us. Some have been accustomed to contemplate him as a soldier, others as a statesman, and a few as a man, without regard to station. Though little is usually said of private character in connection with public benefactors, I have no doubt, from a long acquaintance with General Jackson, that he felt much more solicitude as to his independence, worth and standing, as a man, than for all the honors ever lavished on him by a grateful people. Yet such is the structure of society, such the eclipsing tendency of public life, that he has long been known over most of the globe as a successful soldier, and appreciated highly by millions as a statesman, without much inquiry as to those great principles which he had nourished in retirement, and which fitted him so ably for public usefulness. But it was those principles, and the habits formed by those, and not, as many suppose, accident or fortune, which afterwards insured to him victories in the field, and wreathed his brow with civic laurels. Hence, his example is so much more to be venerated and transmitted to coming generations for emulation and encouragement. Starting in life with a few strong natural endowments, everything beside was with him self-made. It was he himself that improved what God had bestowed or placed near him. It was his practical sense that seized on all the opportunities which occurred for instruction, however few and fleeting, and made the most of the agitating circumstances amidst which his lot in life was cast. It was his idea of moral obligation that made him patiently study his duties till inspired with confidence in himself, and then be so firm in their performance as to inspire confidence in others; and, in short, after being indefatigable to ascertain what was right, to feel no less bound to *enforce* it, and "*dare do all which doth become a* MAN," whether for himself, his friends, or his country.

A character thus formed is of course subject to human frailties, and in some respects more so than one nurtured in early life amidst superior

advantages from education and associates, who had also enjoyed and improved such advantages. I say this, because indiscriminate eulogy is not worth the breath that utters it. But, at the same time, a man, when reared like him amidst the agitation and perils of a revolution, sooner learns to buffet well the tempests of life, and, like a tree blown upon by violent winds, strikes root deeper, and is better braced to encounter responsibility and danger of every kind, and his opinions are stronger, as well as adhered to with greater tenacity.

Another trait in his private character, not unusual in vigorous intellects, though apparently so opposite to the current of their ordinary feelings, was respect and attachment to female worth. This was doubtless increased in him from early dependence on a widowed mother, and from endearing associations connected with her watchfulness and devotion to the improvement of his youth. This watchfulness is a most salutary restraint, often substituted by Providence in the place of a father's hardier power; and when it is not always successful in preventing excesses or errors amidst the numerous temptations of early life, it often excites remorseful remembrances, and wins back to duty an erring child.

His wife, while dead as well as living, he regarded almost as a guardian angel. Her miniature was worn near his heart in health, and reposed with his Bible by his sick couch. Well do I remember, while walking with him once among the tombs of the distinguished dead in the congressional burying ground, whither we had gone to pay the last obsequies to another of their number, he said, "One solemn request I now urge on you, should I die in this city; remove my ashes to Tennessee, and let them sleep beside my beloved wife." Thank God, his fond wishes on this subject have been realized, and they do sleep together under the shades of the Hermitage, as they hoped to rise together at the resurrection of the just.

His tenderness of sentiment extended to her relatives, and, being without children to absorb a portion of it, all his friends came in for a larger share. When once satisfied of their worth, he clung to them with an iron grasp; and it became almost a passion of his life to reward their attachment. If at times he was thus betrayed into kindness unmerited, the disposition on his part was always noble, not only seeking to repay obligations with his purse and pen, but earnest, on any fit emergency, even to lay down his life for his friends.

In performing that or any other supposed duty, it would be too feeble to say he was brave. *He was the bravest of the brave.* Whether in the horrors of Indian warfare, — to which he was in some degree inured from childhood, — or in conflicts with the disciplined troops of Europe, or in personal jeopardy from the assassin's ball, or in scenes of civil strife, the same dauntless intrepidity marked his course; often accompanied by — what is less rare on such occasions — coolness of judgment and great self-possession. I stood once by his side when his life was assailed, and scarce a pulse would beat,

after the attack was perceived, before he rushed on his foe, alike regardless of danger, and mindful of the means best suited to punish the aggressor.

With whatever correctness he may at times have been charged with rashness under the feverish impulses of youth, it is certain that his judgment seldom forsook the helm in advanced life, and, under the highest provocation, *in the very tempest of his passion*, he was remarkably wary and watchful. And, however ardent, or even vehement, in what he deemed a good cause, his faculties were usually collected and his bearing firm. Mingled with this true courage, he possessed, at the same moment, rare modesty and sensibility. Singular as the combination may seem, yet it is not new in history. When existing, it shows in a more elevated light that strong conviction of duty which is able to impel men, even of retired habits and delicate feelings, to overcome them all, and hazard life itself in defence of what is considered right. One illustration occurs to me, which, at the time, astonished some of the less observing as to the mysterious workings of our common nature. When Congress caused swords to be presented to several officers who had signally distinguished themselves in the last war with England, some received them with coolness, and replied to the addresses made on the occasion without emotion. But the great captain, who had saved a city from being sacked and its daughters from pollution, and who had never blenched nor trembled before an enemy, shook like an aspen leaf, though surrounded by friends, and could with difficulty give utterance to his gratitude.

We all remember, also, that, in the heat and bitterness of party strife, reproaches were sometimes cast on him for a supposed want of proper sympathies for the rest of mankind. But, in truth, few men possessed more humane feelings. In the privations of war he divided with the famishing soldier his last loaf; the decrepit beggar never left his roof hungry; his domestics shared his attention in sickness and health, weeping loudest around his bier, and he was always found a neighbor to the needy, and a succor to the oppressed. The elements were all kindly mingled in his breast, and the scenes he most longed for, and enjoyed with the highest relish, were those of quiet and well-ordered industry, among attached friends, in rural employment, and amidst deeds of humble usefulness and unostentatious benevolence. How often, when surrounded by all the splendid honor of public life, have I heard him sigh for the Hermitage, and plan improvements and enjoyments to be carried out amidst its tranquil scenes.

I am aware, likewise, that both friends and foes have bestowed on him another characteristic,— of being a man of iron will. When this is meant to imply hardness of heart, nothing could be further from the truth, since no child at the sight of suffering overflowed quicker with the milk of human kindness, than the stern-visaged warrior. But when it means that his sense of duty was strong, and stronger even than his feelings, the term may not have been misapplied.

His iron will was mere firmness or inflexibility in the cause he deemed right. It was an indomitable resolution to carry out what conscience dictated. Judgment and the fruits of it, opinion and corresponding conduct, it seemed to him ought to be inseparable. He knew of no compromise, or tampering, or half-way measures with what was wrong. This high moral tone, the very highest in the annals of reformers and martyrs the world over, though often imputed to him as a fault, was, in fact, the crowning glory of his character, whether as a man, or a warrior, or a politician. So far from its having proved inconsistent with seeking full advice, and weighing contradictory reasons, and adopting measures of conciliation, where justifiable and wise, it was generally preceded by the amplest inquiries and the most careful deliberation. But a conclusion having been once formed in this manner, the whole powers of his mind and heart were flung into its execution with almost resistless energy; and then, in fortitude to resist opposition, and in courage to brave all difficulties, and inflexible perseverance to carry out measures deemed right, he may well have been called a man of iron,—a man of destiny, or the hero of the iron will. Nor did this habit, as some have imagined, make him implacable or unforgiving. For, though like others of a warm temperament, making good haters, as well as good lovers and friends, he often forgave his bitterest enemies, and reconciled differences many deemed insuperable. His custom of assuming responsibility in doubtful cases has been another topic of criticism, but was only a branch of this energetic trait of character. Blessed with clear perceptions and careful habits of research, he came to more decisive conclusions, and in less time, than most other men; and hence it became his duty, under these stronger convictions, to follow them out, and, with a manly daring in behalf of what seemed to him right, to act for that right, and act with energy and without fear, whoever else might falter. This, instead of being culpable, seemed at times, amidst fainting and doubting hearts around him, heroic; and if evil was ever connected with it, such a result usually sprung from a defect in forming some opinion, and not in exhibiting the courage and want of hypocrisy to stand by it chivalrously to the last when not conscious of error.

His whole walk in private life having been grounded upon principles and habits like these, it is not strange that, in obedience to his country's summons, entering on the great theatre of public action, he should carry with him what had chiefly qualified him for public usefulness. There, to many previously not familiar with him, those principles and habits became first unfolded; and as he was there, ere long, "the observed of all observers," there let us follow the further development and application of them during the few moments that remain to dwell on his virtues and glories.

His first public duty in behalf of his country was, as a youthful soldier, unknown to fame, to defend her liberties in the field. His last one was to lay down her highest honors and withdraw to the

shades of private life, with the blessings of millions for his toils and sacrifices. His earliest efforts took a military direction, probably more from the necessities and perils of the times than from any taste for it which then inspired him. Continuing after peace to live somewhat exposed, in a frontier life, to Indian hostilities, military habits were formed and traits of character developed in feats of arms, which, in other conditions of society, might have appeared only in conquering professional difficulties, or a stubborn soil. The qualities of mind to insure success in either may be much the same; and yet accident or necessity may make one possessed of them merely a successful farmer, and another a military chieftain. But at no period of his life was General Jackson a soldier of fortune, or trained in the regular schools of war. Hence, in the busiest portions of his service in the field, he was still, at heart and in grain, the citizen, the planter, the lawyer — bred in courts rather than camps — fond of agriculture and politics, and never considered a life in arms either as a profession or a choice. Whatever Gorgons, then, jealousy or rivalship may ever have conjured up as to the danger of his becoming a military despot, and turning his sword, like Cæsar, or Cromwell, or Napoleon, against the liberties of his country, there was no foundation in his education or tastes for fears like these. The instruments which he had been accustomed to employ were also alike unfit to accomplish such perfidy. So far from being disciplined legions, whose trade was war, or mere pretorian bands to sell the people to the highest bidder, they also were citizen soldiers. They were farmers and mechanics, with their sons, fresh from the plough and the workshops, accustomed to the rifle chiefly as hunters, and taught to wield them to defend, not destroy, liberty, and, as an armed people, to punish, rather than encourage, usurpation. Another consequence, bordering almost on the marvellous, results from these circumstances. Considering his original pursuits to have been in civil life, considering his want of scientific education in military affairs, considering he never made arms a profession, and that his troops consisted usually of militia, his skill and success as a soldier seem to have been much the more remarkable and more productive of the general admiration he excited. At the Horse-shoe Bend, he forced breastworks as intrepidly as Charles the Twelfth or Suwarrow. In several other Indian campaigns, he surmounted obstacles, endured privations, and fed on acorns with his men as patiently as Hannibal.

Afterwards, little as had been his experience with disciplined armies or the science of war, he defended New Orleans with skill beyond the ablest engineers, and in all his campaigns exhibited vigilance equal to his bravery; and was as tireless as vigilant, and never hesitated at what the public safety seemed to demand, on account of any risk or danger to himself, however great. His private fortune was more than once pledged to raise public supplies, and he faced both imprisonment and fines, rather than leave any opening, in the absence of martial

law, for an enemy still lingering on our shores to succeed, either by perfidy or surprise.

It was a most grateful solace, in his declining years, to receive back from the government of his country the penalty then extorted from him. And the more so, as, like a good citizen, he had paid it peacefully, in compliance with judicial forms, though surrounded by a victorious army and thousands of munificent and faithful friends. But the danger being over and the time past for the laws to be silent among arms,— *leges silent inter arma*,— instead of crossing the Rubicon against his country, like Cæsar, or instead of driving out, like Cromwell and Napoleon, the members of the halls of legislation at the point of the bayonet, he soothed popular excitement, exhorted to obedience, and himself stood forward, foremost, to preserve the reign of order and law. The pencil and the canvas are yet to do justice to that great scene. If less brilliant than the victories which preceded it, nothing in his whole splendid career transcends it in true grandeur or salutary influence.

In a hurried allusion to some of his military excellences, we ought not to overlook the rapidity and suddenness, no less than the boldness of his movements. I have often heard him say that the unexpected attack made on the 23d of December contributed greatly to the triumph of the glorious 8th of January.

In the former, as in some of his forced marches on the Indians, he fell among the enemy, almost literally, as the thunderbolt of war. And if a complete panic was not the result, there were fearful disheartenings, confused councils, fatal procrastination, and a foreboding of disaster that helped much to produce what it dreaded.

Again: his vigilance, and care and industry in preparing for action, were unequalled, and did much to command the success which they so richly deserved. He acted as if nothing was done while anything useful remained undone. He not only directed everything, but, if possible, watched its execution. His physician, when we were once together examining the battle field near New Orleans, observed that the General, though laboring under disease on the night before the 8th, and a fit subject for the hospital, refused medicine, and visited almost every portion of the line in person, to insure the most perfect preparation for the coming conflict.

Thus, while many supposed that mere animal courage won his victories, or that personal bravery did all to turn the scales, it will be seen that conduct as much as courage,— that preparation, foresight, care, were, under Providence, his constant reliance, and that, without these, he never confided in mere impulses or naked force.

He was also fertile in resources; and his breast-works of cotton bags will be as durable in history as the rocks of the Alps, scaled and dissolved by the bold Carthagenian.

But in all these observations, it will be seen that I dwell more on

the capabilities he discovered to become a great military chieftain, than on acquirements he never claimed, or acts he never aspired to.

A long training in the art of war, like Wellington, for instance, he had not enjoyed; nor many thousands, like Frederick the Great, seen slaughtered in numerous pitched battles; nor sieges of walled cities, frequently prosecuted till sacked, like Constantinople, or buried in their ruins, like Tyre. He himself wished to wear no laurels but those he won.

In wearing those, he wore enough to satisfy the true ambition of any one. He wore, the world over, the renown of defeating British veterans with raw militia. He wore, from home, the gratitude of thousands of frontier settlers, for the cradles of their children rescued from the scalping-knife. He wore the heartfelt blessings of millions west of the Alleghanies, secured from ruthless foreign invasion by his energy, and skill, and indomitable courage.

He wore, in fine, the richest rewards of a whole country saved from disgrace, and a whole country elevated and honored by his heroism and glory. Who that recalls the vivid scenes of those days gone by, near a third of a century ago,— when millions of aching eyes, with aching hearts, looked, in almost breathless silence, for the next advices from New Orleans,— but must feel with renovated force, since his decease, all we then felt at the first joyful tidings of his great victory? Patriotic age then shed tears of exultation, as when American liberties were sealed and secured by the surrender at Yorktown to the great chieftain of the Revolution. Youth, ardent and impulsive, then cheered his name as a second Washington, a second savior of their country; and female thankfulness, under almost every roof, however lowly, invoked blessings on his head, or, like the nuns of St. Ursula, moved in solemn procession, to offer in public a *Te Deum* for both the victory and the victor.

When, in later years, some have expressed surprise at such a strong popular feeling as usually attended his progress through the country, and at the almost boundless empire his opinions exercised over the masses, and at the demonstrations of mourning over the whole nation exhibited since his death, showing how strongly and long he lived in the hearts of the people,— they can hardly have recalled the stirring scenes of the close of the last war, and the deep, deep impress on the whole country made by them, no less than his subsequent career in political life. The tide became resistless, in favor of his pure patriotism, his honesty of purpose, and more than Roman devotedness to the honor and welfare of his country.

Passing over further allusions to his military character, a few additional words in relation to that political life, and my imperfect review of his services will be closed. Some, who concede to him almost unmeasured praise as a soldier, have been loath to admit he possessed any great superiority as a statesman. Nor is this extraordinary, when the occupations of the camp, in a country like this, are, or ought to be,

in a great measure, disconnected with party strife; while the politician lives in that strife, as one of his most exciting elements. Another reason is, that friends in such struggles are apt to be as much too lavish in commendation, as enemies are too stringent and unyielding.

But when, as now, the curtain of life has fallen on one who kept up a thrilling interest in the public mind to the last, and was considered by the great author of the Declaration of Independence to have filled the measure of his country's glory near a third of a century ago,— it is time that the prejudices of party should soften. The death of so much greatness and glory, warning us, with new force,—

"What shadows we are, and what shadows we pursue,"—

should induce human charity to revise any harsh opinions formed under circumstances less auspicious.

In taking the dimensions of any statesman among us, it is to be remembered, in the outset, that we have no separate education or training for that career of public life. The equality of our means, as well as rights and institutions, tends likewise to forbid much of that signal superiority in a few individuals, which may sometimes occur elsewhere, amidst inherited rank and inherited wealth. But that any man could here start early in a profession,— could be advanced to its first honors at the bar, and next to the bench itself,— could, ere long, represent his district in the halls of Congress, and next the growing State itself, which knew his worth best,— that such a man could finally be promoted to the very highest station in the gift of a great people, and, after one trial, again be elected, almost by acclamation, can hardly be reconciled with the idea of his not possessing some of the very best materials which exist here to form a useful statesman. But, in saying this, who of his discreet admirers ever wished to claim for him — what he himself was the last man to tolerate as deserved — any deep researches into the writings of political economists, or that wide range of historical reading which sometimes instructs no less than it adorns? Could his dust speak from the grave to the thousands now engaged in drawing the leading traits of his character, his sturdy honesty would say, as Cromwell did to Lely the artist, "Paint me as I am;" leave not out "the scars or the wrinkles." Looking, then, to his real worth in political life, and bringing him to the standard which will ever prevail in a government like ours, all must admit that he ranks high, independent of the trappings of office, and was, in many qualities, among the very foremost. And why should he not have been? What was there in his genius or habits which unfitted him for usefulness in the public councils? He had been endowed by nature with a strong intellect. Active habits were formed on this, early in life. He began his career when all the great principles of government and human rights were the theme of every tongue, and the subject of much thought and study as well as discussion. He entered the arena, not only as a

citizen, ardent in the cause of securing those principles and rights, but, ere long, as an officer, to expound and aid in the administration of the very government he had fought to defend.

He helped to develop all the great questions then in controversy, and establish necessary guards in forming and adopting some of the new constitutions. Rapidly he is advanced, and enters on a more enlarged sphere, to witness and participate in some of the struggles of principle under the elder Adams, in which were involved several of the most difficult questions of power and construction that ever arose between a free people and their representatives, and between sovereign States and their own confederacy.

Indeed, his whole life may be considered as spent in a practical school of politics, the intervals devoted to arms being brief and rare, and often mingled somewhat with the political agitations of the day. Beyond all this experience in such matters, aided by some current reading on the questions involved, he was a man of most observing habits, not skimming the surface, but probing everything around him to the bottom, and, with an eagle gaze, looking quite through the deeds of men. He was also a patient listener till his opinions were formed; counsel was invited from all proper quarters; and, instead of acting in difficulties *headlong*, or without reflection, he gave many hours to retired thought, when the crisis would permit, and was sagacious in detecting fallacies, shrewd in respect to consequences, and familiar with the bearing of most measures on the real affairs of life. Added to this, he was a most thorough and constant reader of our great political bible, the constitution of the Union. It was his faithful companion by night and by day.

But, surpassing many of these excellences for usefulness in the chair of state, he possessed, beyond most other men that ever graced high stations, decision of character. In the multitude of doubts and questions which must be adjudged in such a position, and the difficult selection of agents obliged to be made to execute the laws, vacillation and indecision are often fatal. Beside this controlling quality, his long intercourse with men in active life had enabled him to discriminate and judge exceedingly well of character, and though at times misled by too great confidence in his friends, he never failed to correct mistakes when discovered, however painful to his sensibilities, and however it might rupture the attachments cherished for many years. Indeed, in the chair of state, under the solemnities of his official oath, and the instructions of the people and the States, through the constitution, he felt bound to let the public interests ride over every other consideration. He carried also with him into that high post the same sleepless vigilance he had practised in the camp,— the same stirring assiduity in preparation in every emergency.

In addition to this, he had an abhorrence of all fraud and hypocrisy. It seemed in him instinctive and unconquerable. All was manly, aboveboard, straight forward, as well in his negotiations abroad as in the

domestic dissensions he encountered at home; and this disposition, cultivated and practised long in private life, was found to be no less honorable to himself and his country through his long public career. This it was that won for him so much respect and such remarkable success in his foreign intercourse, aided, to be sure, by a knowledge of his high decision of character and great fearlessness in the discharge of every duty. The indemnities he thus obtained,— under a resolution neither to take nor do wrong,— not only poured many millions of wealth into the country, of which it had long been pillaged, but strengthened the government and inspired forbearance abroad in future. The most signal instance of the force of these qualities at home, and the devotedness of all of them to the welfare of his country, was that great occasion when all his energies were summoned to execute the laws, under anticipated resistance, even against his native State and the most devoted friends of his maturer life. But he no more hesitated, in that crisis, to tread what seemed to him the path of duty, than did the Roman Brutus in respect to his own son.

The country became more and more confiding, under such trials, in his high moral sense of duty, no less than his patriotism and courage; and the success with which he encountered and defeated difficulties in the cabinet, scarcely less than what he had exhibited in the field, gave one of the best assurances that he possessed, in an eminent degree, some of the highest qualities of a statesman. His labors and triumphs in civil contests seemed almost equal, in arduousness and number, to some we read of in classical mythology. But instead of being dismayed by their thickening force, he gathered new strength and confidence from the people at large under every struggle. But the people no more strongly placed their trust in him than he in them. And it was often a maxim on his lips, no less than a guide to his administration, that, under our system of government, no abiding trust could be placed except in the people. If they had not virtue and intelligence and firmness enough to meet any emergency, nothing was safe; but if they, being the source of all political power, justified and stood by him, all was safe; and, when thus supported, he carried through vetoes triumphantly, against the interests and opinions of many friends, no less than foes,— he sustained force bills against the voices of States most devoted to his election,— he strangled formidable coalitions, and foiled or crushed, with unsurpassed firmness, the worst political panics and the most monopolizing combinations.

In all these struggles of civil life, a much higher species of courage is necessary than on the battle field, as no trumpet, drum or cannon stirs the blood, no standard floats in the breeze, to animate the drooping spirit,— but it is a moral firmness, a martyr's devotion to duty, which must usually sustain, encourage and triumph. Beside that he had another ally in every crisis. It seemed almost peculiar to his physical as well as intellectual organization, that excitement became one of

its elements; and exertions often appeared to invigorate, rather than weary.

A mind like his frequently serves to wear out the body, or, like a canker, to eat into the heart, and cause premature decay. But with him it seemed a necessary stimulant to preserve the body, to rouse its enfeebled or fatigued forces, and keep up action enough to continue life. He hardly appeared even to desire, any more than need, relaxation. Though not insensible to the calls and charms of social intercourse, he could scarcely be said to indulge in any pleasures. And it is a remarkable fact, that while on his northern tour in the summer of 1833,— when festivities and joy and triumphal processions awaited on his progress over half the Union,— he spent many laborious hours, stolen from company and sleep and sickness, in some of the most complex and difficult business that ever engrossed his public attention. It will readily be seen that no station near such a man was a sinecure. He justly held that a public servant owed all his time, as well as energies, to the public. He tolerated, as to this, no plausible excuses, or compromises, or metaphysical distinctions. While anything useful remained to be done, his motto was,— onward, onward,— work, work, work.

Though it was no holiday affair to fill office as he filled it, whether looking to himself or those around him, though requiring, as well as practising, all the watchfulness of an Indian ambuscade, all the vigor, at times, of a forced march to surprise an enemy, all the zeal of a missionary of the Cross,— yet his active temperament or military training, apparently so inconvenient to others, was mixed up with a courtesy of manner and kindly consideration of what was due to real infirmity; so that in nothing was he more striking than all the feelings of a gentleman. He had been formed in that revolutionary school of politics, which added the politeness of the French to the solidity of the English, or the manner of the Lafayettes and Rochambeaus to the strength and intelligence of the Burgoynes and Cornwallises. He exacted nothing which he did not reciprocate; he respected in others all that he asked for himself; and every candid observer soon felt that however severe his course may at times have seemed at first, yet in the end he carried out only that Chesterfieldian as well as Christian injunction,— *to do to others as you would be done by.*

Such was his ease in general society, and so delicate his attentions to female excellence, that many, who never met him elsewhere, concluded at once he was more of a courtier or man of the world than suited for the conflicts of camps and parties and affairs of state. But nothing was further from truth. The moment over that had been demanded by social usages or the forms of fashion,— his whole soul was in his business; and nothing personal or amusing could ever tempt him into the slightest neglect or abandonment of public duty. Never was he bigoted or exclusive in anything. He was public-spirited in all; nor did any vandal spirit, however imputed, ever mark his opinions

or deeds, even in the fiercest ravages of war, or the bitterest excitements of politics; and, however the great exigencies of public life may have forced him at times into action and responsibility when others doubted or halted, all his risks were for his country; all the dangers braved were intended to protect the people and the public safety.

That he should have been infallible in all this, none pretend; but that he meant well, and, in the main, did well, and, as a whole, performed noble service to his country, none can deny. If to err is human, then, if the light of the sun itself be not without some shades intermingled,— can we, taking him all in all, be otherwise than proud of his rank as a man, a soldier, and a statesman? Whether on the Thames or the Ganges,— under the tent of the Arab, or in marble palaces, it is a distinction to be known as one of his countrymen. Compared with the renowned of other ages and other continents, all America may justly boast of him as a production creditable to the New World. Humanity itself becomes dignified when man lives up to the height of his powers and his destiny. Though some have regarded him as only a meteor in our horizon, yet, so far from that, he will live as a fixed star in history,— one of the master minds of the age, carefully formed and practical in his efforts, and worthy the pages of future Plutarchs for many generations to come. The justice of this conclusion will strike us more forcibly if we notice the contrast between his course and that of many inscribed high on the rolls of past ages; his whole life devoted to defend the liberties of his country, rather than, like others, to break them down; the passion of his heart to uphold rather than to overturn its constitutions and laws; friends and power risked, to preserve unimpaired the sacred ties of its union; the sceptre of state relinquished, and, like the humblest citizen, retiring to his farm, instead of striving, like many, to usurp authority, or prolong the pomp and pageantry of office.

In fine, he neither enriched himself by plunder or peculation, nor engrossed office for his family, nor waged a moment's war for ambition or conquest, nor exercised a single new power, nor betrayed an old one, nor filled station an hour but from the will of the people, or in conformity to the charter of their liberties. What to such a man, in sterling worth, are the Cæsars and Napoleons and Santa Annas of history? and what is the value of their bad example, contrasted with the fidelity and patriotism of his, to guide the youth of all coming ages in the cause of public liberty and public virtue? How admirably were his qualities suited to render him a fit statesman for the stormy and responsible dangers of a republic; and how the instinct of our people detected and appreciated and honored such qualities, while living, and lament them when departed! Who can say that such a man was not raised up by a kind Providence for our national security in peace, no less than war? and while a nation bedews with tears the green turf where he sleeps, it is not sorrow without hope; for who can doubt that the same guardian Power which has shielded us hereto-

fore through the Washingtons and Jacksons, the Jeffersons and Franklins, that crowd the bright galaxy of our history, will raise up other worthies, and train them suitably to meet every peril which may menace us?

Whatever may be the combinations of rival thrones abroad, or whatever the jealousy and injustice sometimes excited at home against those who are true to the cause of popular rights and free governments, as opposed to despotisms and monopolies and arbitrary dominion of all kinds, the past is full of hope for the future, and inspires the same confidence concerning the salvation of the republic as was felt by him about his own, in the shades of the Hermitage, when his purified spirit bade his countrymen its last farewell. When, in that solemn hour, all his trophies were laid lowly at the foot of the Cross, how joyful, even more than solemn, was such a close to the great drama of his existence on earth; hallowed by what lofty consolations; animated by what near reünions to all he had loved most in life; sustained by what trust on high; grateful to what millions for what confidence and honors below; charmed by what prospects of enlarged and enlarging greatness to the country that gave him birth and glory, and rest to his ashes! His last words were said to have been,—

"I have finished my destiny on earth, and it is better that this worn-out frame should go to rest, and my spirit take up its abode with my Redeemer."

If a good close of life be its crowning excellence, his was one of the most fortunate that has fallen to the lot of humanity. Long will the memory of such a man be cherished by an admiring world, and long, very long, may it live in the hearts of his countrymen, and shed a genial influence over their character and institutions. Age and youth, in grateful crowds, till the evening of time, will gather round his tomb, recount his patriotism and glories with tearful eyes, venerate his virtues, and grow wiser and better by the salutary lessons his life inculcates.

LIFE, CHARACTER AND SERVICES OF JAMES K. POLK.*

FELLOW-CITIZENS: — In paying a tribute to the memory of departed worth, it is impossible to suppress our sympathies and regrets. But, while unable to avoid these exhibitions of the frailty of human nature, it is fortunate that they are at times attended by some consolation. This exists in the reflection that the remembrance of private virtues or long public services, when the actors in them have been withdrawn forever from the theatre of this troubled life, is likely to be useful to the living, and that to commemorate them respectfully is an act of justice to the dead.

On this melancholy occasion, when the sudden departure from among his countrymen of one who had filled a large space in their history, and partaken liberally in their highest honors, has caused the tears of millions to flow for such a bereavement, let us try to discharge fitly the debt of gratitude we owe. And perhaps this can be done best by reviewing and acknowledging his excellences, a task solacing, though sad; and, at the same time, by dwelling upon and among them, as among the rich flowers of nature, strive to value properly their attractive hues, and, if possible, imbibe some of their fragrance and healthy virtues.

JAMES K. POLK was born in North Carolina, in the year 1795. The very soil where he drew his earliest breath was classical in our annals, and calculated to inspire lofty principles,— it being the county of Mecklenburg, where the first public avowal of American independence was recorded, notwithstanding denunciations of treason and the sight of the scaffold in perspective, and notwithstanding all those ancient ties of veneration for the mother country, and pride in her greatness and glories, which had animated most of the colonists. It was his good fortune to have sprung from a revolutionary stock. The latter was fitted to teach patriotism by example as well as precept. "God and Liberty" were the great themes of that race of men, and to serve them, their chief aims. He was blessed, also, with a mother, who, as many distinguished men in all ages have experienced in like cases, did more, by her strength of intellect and devoted attention, to check the erring footsteps of youth, and train the mind as well as the heart for wisdom's path, than all the other teachings of early life. And while she survived to witness, with sympathies that only a mother

* Delivered at the request of the municipal authorities of the city of Boston, July 25, 1849.

can feel, his rapid progress to distinction, and lived to gaze on the bright meridian of all his public honors, it was her sad fate to behold the object of her affections prematurely cut down, and to linger around his dying bed, and offer up prayers for his departing soul.

Mr. Polk enjoyed in early life the advantages of a liberal education. These, though not a substitute for self-study and self-teaching afterwards, and, when standing alone, are of small value compared with those, yet they furnish means and implements for future thought and action, often of great moment. Such opportunities were well improved by him. It was done with unwavering perseverance. He was never wild and wayward, nor dazzling. His mind was cast in a different mould, and looked always rather to the practical than the brilliant or poetic.

The great business of life and government,—the toils in cabinet, or field, or workshop, or on the vessel's deck,—are to be accomplished by business men; and whatever homage may be due and can seldom be withheld from the beauty and passion of poetry and rhetoric, or from extraordinary acquirements in languages and mere classical studies, yet, without disparaging them in their appropriate sphere, it is never to be forgotten that they alone cannot build railroads, or fell forests, or govern well the toiling millions.

It is not known that Mr. Polk was at this period distinguished by anything except exemplary habits, united with the strictest attention to study, and crowned by the usual fruits of collegiate honors. And though qualities such as these are less attractive to the young than premature developments,—meteor-like exhibitions of genius in early years, as those of Chatterton, or Colburn, or the younger Pitt,—yet they are well known to the elder in life to give assurance of a steadier and more useful progress in after days, and to be likely to confer greater blessings both on the individual and society at large. He soon after prepared himself for the arduous duties of the bar. His professional studies were pursued in the office of Felix Grundy, in Tennessee, where he afterwards settled; and no doubt Mr. Polk caught from that eminent advocate and politician some of the keen sagacity and ardor in debate for which Mr. Grundy was so remarkable, and, if I may be allowed to add, in grateful remembrance of his friendship, equally remarkable for warmth of heart, and fidelity to all the charities and kindnesses of life.

After entering on the practice of law about the year 1820, the ex-president, like many of the aspiring youth of America, was tempted from the bar into the fierce arena and turbulent agitations of politics. And though in this case the change may have been followed by extraordinary success, it is usually attended by disappointment, by unavailing regrets in after life, and too often buffets its victims around, the sport of adverse winds and quicksands, till everything is shipwrecked, so that you cannot "pull up drowning honor," even "by the locks." He was elected a member of the State Legislature in the

year 1823, and two years afterwards a member of Congress. Then I first had the pleasure of forming a personal acquaintance with him, and with the faithful partner of his sorrows and joys, at that time in the bloom of youth, buoyant with hope, and inspiring all around her with respect for her amiability and virtues. She was a new star to help guide his future destiny. I have seen her since, more matronly, and yet more adorned by the graces, devoted to the discharge of the appropriate duties in her high sphere, winning the admiration of thousands by the marvellous propriety of her manner, and returning with dignity to a more secluded life, with a long vista before her of friendships to be brightened, domestic affections cultivated, new scenes in both continents to be visited,* and hosts of comforts and luxuries to be collected around the downhill of life, and enjoyed so as doubly to bless her in company with him to whom in early love she had bound her mortal destiny for weal or woe. What a change has since come over this paradise by the calamity we now deplore!

And though she may possess firmness of nerve and religious resignation to bear with becoming fortitude, but not without anguish and torture of heart, the severance of the closest of earthly ties, she must have the sympathies of us all in the desolating change from her high hopes and enjoyments, dashed at once into fragments; and, in their stead, sickness and death, sackcloth and ashes, the sad funeral drapery, and the chill damps of the tomb.

Very soon after entering Congress, Mr. Polk began to be appreciated for his untiring devotion to business. He was distinguished, also, for care in his examinations of important subjects, and for promptitude and spirit in debate. His speaking was always animated, and usually effective. But, what in such a practical body often goes beyond mere oratory, he soon acquired the character of "a safe man." Every one knew, likewise, beforehand, where to find him. He belonged to that school in politics, where the strictest construction of the constitution prevails, and through his whole career endeavored to carry out its views. He was no *ignis fatuus*, at any period of his public life,— but firm, steadfast, armed with what he believed to be well-grounded principles, and with courage no less than fortitude to stand by to the last what he had concluded to be right. These qualities, ere long, insured high confidence; and confidence was speedily followed by further honors, no less than esteem.

He became placed at the head of some of the most important committees in the House,— and when associated with that of ways and means, in 1834 and 1835, the most working, if not most responsible, station in Congress, I enjoyed, in the treasury department, still closer opportunities of witnessing his careful and practical turn of mind.

While anything remained to be known for illustrating his measures,— anything to repel assaults on them,— he was indefatigable in becoming

* Mr. and Mrs. Polk contemplated travelling in Europe the ensuing autumn.

possessed of it. The patient inquiry, the wide research, the midnight lamp, the earliest dawn, were all put in requisition.

The committees over which he presided were soon more distinguished than usual. Indeed, the committees of Congress are always the great instruments of its power; and their chairmen are even more to the committees than are the latter to Congress. They are its eyes, ears and hands; and without diligence and talents in them, system and punctuality in the head, and especially in crises such as he had to encounter, in vain may Paul preach, or Apollos water.

Appreciating and anxious to reward qualities like these, which Mr. Polk had exhibited, as chairman of the committee of foreign relations, and of ways and means, the House early marked him as a fit person to preside over its deliberations. No station in the government is more imposing or influential in legislation, than that of presiding officer of a popular body to make and unmake laws for a great and free people.

After one failure to choose him, when nominated as a candidate, he was, at last, near the close of 1835, elected speaker of the House of Representatives. This elevated him to the regulation, in debate and in the disposal of responsible business, of one of the most difficult assemblies which the world has ever known. He was surrounded by watchful opponents. He was criticized by the disappointed. He met envy in one quarter; he encountered morbid jealousy in others. But it was good for him to be thus exposed, as he was undoubtedly thus made more vigilant and industrious. It was useful to the country, also, as it thus became better served. It was not wrong, or to be lamented, so far as regards even assailants, when not overstepping the bounds of truth and courtesy.

Opposition thus exercised evinces independence, freedom of thought, and moral courage,— and without these the administration and legislation in a republic are likely to become as degenerate as in a despotism.

But he came out of the fiery furnace unscorched, and, triumphing over all obstacles, after his two terms as speaker expired, in 1839, he retired to private life, with the presage of higher honors awaiting him in the distance.

Foretold even then the future greatness which began to brighten his horizon, enjoying in advance and in hope some foretaste of its glories, how would his cheek have blanched and his heart faltered, if not fainted, had some guardian angel, in the midst of his joyous perspective, whispered, like a seer of olden time, that its toils and anxieties were to sow the seeds of death, and hasten him to an untimely grave!

Notwithstanding our natural solicitude to know the future, it is truly fortunate that the curtain of fate remains, beforehand, undrawn, or we should shrink back from many laudable efforts, seeing often a path before us that leads but to the tomb,— or, at least, to pains, desertion of friends, ruined health, and broken fortunes,— where all,

while shrouded from view, was forced by hope to appear bright with enjoyment and honors.

Mr. Polk was not allowed long to remain in privacy. He was soon elected Governor of Tennessee, after a stormy canvass, which, as in the West, being conducted often in person, "from the stump," depends much for success on adroitness in debate, and ability and fulness of information, to ward off victoriously the blows of a skilful antagonist.

All this was united in him. But, from a combination of causes, which it is not necessary nor fit to discuss, in their political bearings, before this mixed audience, Mr. Polk was in another contest for governor defeated. Yet, Antæus like, when falling to the earth he seemed to rise again with renewed strength, and, aided by sympathies of friends and by new agitating questions in the general government, as well as divisions among those friends in respect to former favorites, he was, in 1844, in the democratic convention of that year, unexpectedly, at so early a day, honored by the nomination to the highest station in the gift of a free people.

His election took place in the following winter, at the early age of forty-nine, being the youngest ever elevated to that important office. He entered on its duties on the 4th of March ensuing, amidst new responsibilities, new labors, new dangers, new trials of mind and nerves. The manner in which he met these may not, in all respects, though harmonized as we are by death, be viewed in the same light by different parties, nor by all of any party. But, on an occasion like this, amidst great scenes within our great common country, there is room enough for all to move on, without elbowing or jostling in political strife. Some things are certain. The success which crowned his efforts few will deny. The eventful character of his administration, and the critical exigencies with which it had to deal, all must concede. And where such a uniform triumph attended his measures, variegated as they were in character, though accident and the exertions of others might contribute something to the result, it is hardly philosophical to attribute all of it to them. Certain predominant qualities in the pilot at the helm in any vessel, and much more the vessel of state, will tell throughout the voyage. They will break out in every gale, every peril. One kind of genius, and that most fruitful of success in life, is the power of concentrating all the faculties on the business in hand; and this Mr. Polk manifestly possessed, in an eminent degree, in relation to the affairs of public life. A never failing and ever useful accompaniment to it in him was sound common sense,—that sterling, practical view of men and things which is taken by the millions, and alone can move the millions. To this, in the presidential chair, Mr. Polk added uncommon industry, vigilance, fidelity, and much disregard of what he deemed captious censure, whether from friend or foe.

His public state papers, without evincing remarkable features of rhetoric or style, are always well argued, intelligible and full; and his speeches while in that situation, and especially during his northern

tour, two years since, when many of you had the happiness to listen to him, were very appropriate.

Without aiming, either in dress or manners, to be a man of fashion or finished elegance, his intercourse with other public functionaries, whether foreign or domestic, was easy and dignified, and his deportment towards the community generally, cordial. He never seemed to forget that he sprung from the ranks of the people, that he belonged to a government of the people, and that he was but a servant of the people. In every station which he had filled, as well as in the last and highest, his morality likewise was without a stain, and though not a professor of religion till the closing scenes of life, he was uniform in paying respect to its principles, and in attendance on public worship. This attendance was usually with the Presbyterian church, though he received on his death-bed the rites of baptism from an Episcopal Methodist clergyman.

In his last elevated office, with such talents and such impressive traits in his character, without derogating from the very successful efforts of his cabinet ministers in their respective spheres, it must be but justice to say, that, independent of his constitutional responsibility for their measures, and hence his rightful and useful control over them, he could not but have exercised other influences less direct on every important executive proceeding. The impulses of his rare combination of qualities of head and heart being generally felt by those around him, must, for instance, have contributed to caution in foreign negotiations, to watchfulness in conducting a distant and dangerous war, and to promptitude and energy in meeting the great financial difficulties of the crisis. His daily life became a daily example to those more closely connected with him, but it was so by its strong moral influence, rather than by any brilliant or dazzling energies of a master spirit. Such a moral influence, constant, strong and wide, is durable, instead of transient, in its consequences; imprints its footsteps into the rock, rather than the sands of time; and is more useful, by its abiding results, to the community, than all the corruscations of mere genius. In short, moral influence thus advances the social condition, as well as the political, and forwards fast the progress, the civilization and best hopes of humanity, while other influences too often retard the whole, and cast many a blight over the pages of history. Can it be, then, that, possessed of this great influence, accompanied as it was by the large official patronage attached to his station, and by experience in public life so extensive,— can it be too much to claim for him that the remarkable success which attended his chief magistracy depended on something more than mere accidental causes or the assistance conferred by others? Reflect a moment on the length and breadth of that success. How much was accomplished within so brief a period! A mere outline of it,— the most naked skeleton,— will show as many great events as sometimes spread over a century of history.

Indiscriminate eulogy is without value or point; and hence, at the

risk of being thought by some not sufficiently enthusiastic, it has been and will be my endeavor "nought to extenuate," and to hold the mirror up faithfully to the truth and nature of the leading features in his admirable character and remarkable administration. I do not consider it as a part of his fame that he planned many of these great events. He did not enter on his high station with a magazine in his mind, full of magnificent and imposing measures to be attempted.

Though a young man, comparatively, and from the enterprising West, his character was rather wary than rash; rather to follow than devise; rather to meet, resolutely, difficulties and dangers, when thrust on him, than to project them, or to indulge in novel designs, or to court deeds of danger and blood. Not, like the hero who sleeps near him at the Hermitage, born to carry conquests among hostile savages, or meet on our shores an invading foe, and drive back profaners of our soil,— but rather a civilian, formed to husband carefully and defend well what others have bravely won. Thus, while president, he found himself in a most eventful age; but it seemed made so by others more than himself. He added, to be sure, something to the great deeds and stirring incidents of the era, but this was rather forced on him than sought. His ambition was more for the calm than the tempest; and his reputation will rest chiefly on the successful manner in which he managed the vessel of state in the various perils which he was compelled to face.

Thus, for a moment, as to Oregon. The course of events had produced a crisis almost unavoidable. Her limits and exclusive occupation were, therefore, under his administration settled. Though long before agitated,— even a quarter of a century,— yet a regular government by the United States was, under him, first flung beyond the Rocky Mountains, and their laws and institutions first carried formally and fully to the waves of the Pacific. Grant that all was not obtained by his arrangement which the sanguine hoped; grant, as was the conviction of many, that our rights to 54° 40′ were clear; grant that it was on several accounts desirable to stretch our limits to their utmost verge; yet can it be said that the peace of the country with a great kindred power, and the exclusive possession and settlement and growth of twelve or thirteen degrees of latitude, and under the reign of established laws, rather than the rifle or the tomahawk, was not a high national object, desirable to be accomplished speedily, though at the expense of some territory? All must admit that, on a subject most sensitive, further painful collisions were thus obviated, doubts and difficulties of many years standing closed, and the prospect of future war between races almost fraternal thrown off, and, it is hoped, for ages. Next, behold the annexation of Texas, finished under his auspices. Though, it is conceded, far from having originated with him, yet this measure was, during his administration, carried into complete effect,— consolidated. She was not then merely preparing to come into the Union,— anxious and negotiating,— but was actually brought

in, and her representatives mingled with ours in the halls of legislation,— her troops bleeding with ours on the field of glory, and her lone star united in our political galaxy forever.

The importance of this measure, thus perfected under Mr. Polk's administration, can only be appreciated by the vindication it has afforded to the right of self-government, and the large addition it has made to our territory, no less than to our securities in future difficulties, and the hostile weapons both in peace and war it has wrenched from our opponents, and the vast markets for our manufactures it has opened, and the new employments presented for our navigation. Superadded to all this has been the acquisition of California and New Mexico,— larger in territory than half our old thirteen states combined.

This has been more exclusively a measure of his administration. There have been added by it to our public domain and to the Union lands broad enough to support a nation, rich enough in gold for half a world,— harbors capacious enough for whole navies, and almost indispensable for safety and supplies to the greatest whaling marine of the globe. The chief regret mingled with this may be, the inability, as yet, to agree on any but a military government over this great acquisition, and which makes a strong demand on our liberality and exertions, as it already has done on our sympathies, to establish the law of the Union over what has been purchased by means of the money and blood of this consecrated league of fraternal States. Such remote regions are likely soon to become alienated, if not duly protected and bound to us by benefits and improvements such as are necessary to their growth in commerce and close attachment to the Union, even though requiring an Isthmus railroad, or one spanning half the continent in higher latitudes, and which are so much stronger ties than any of mere paper or parchment.

Besides these mementoes of his public career as president, has been a war unsought, but waged, brilliant, chivalrous, by sea as well as land; and among its memorable victories not the least,— fortified towns conquered, and a capital subdued,— renowned as the seat of empire under the Montezumas, and though situated over 7,000 feet above the ocean, and hundreds of miles from its shores,— yet all accomplished under orders, supplies and reinforcements from a distance equal to a quarter of the diameter of the globe. It is these extraordinary triumphs, under Mr. Polk's administration, which, however as party politicians we may differ as to their usefulness or justification, help to give a character to him and that administration in all coming time. They have astonished Europe, and carried the fame of the American flag into both hemispheres higher and wider than in any former age. Not the least among its glories has been,— forbearance to the fallen, the conquerors bringing away scarcely any spoils of war, except one,— perhaps the choicest in history,— the reputation of showing great humanity to the vanquished, and rare moderation in victory.

What is no less extraordinary in a republic, peace followed under the same chief magistrate by whose recommendation war was declared. The victorious chieftains, also, who more immediately won the laurels, have withdrawn to their homes and to peaceful duties as quietly as they would retire from a church service or funeral obsequies,—rather than attempting to turn their swords against their common country, or, like the Alexanders and Tamerlanes of antiquity, to ravage other unoffending nations. Say nothing debatable then, in a party view, as to all these memorials of his fame, or the different lights and shadows in which they appear to different minds,—say nothing as to several important changes in the laws on financial and industrial subjects, beside postal arrangements by sea, during the exciting term of his presidency, and which time will permit us hardly to enumerate, much less discuss,—say only, that all these striking events in peace and war, requiring ages to develop their full results, have happened, and this in the brief space of four years, and enough is said to hand down to after ages the renown of him who guided the whole. History will do credit to events like these, or become no better than romance. And though it may not paint *him* without faults, as errors of some kind are inseparable from the lot of humanity, yet it will do justice to his intentions, however at times misled; it will yield to him a most pacific temper, however forced into war, and will commend him for vigilance, activity, and most useful and exemplary habits, in conducting the whole, whatever severity of criticism has occasionally been showered on him, and more especially for his unexpected vetoes. Mr. Polk thus lived and thus triumphed, until the period arrived for his return once more to the shades of private life. He thus lived and triumphed till his measure of patriotism was full, even to overflowing, till he had done almost everything in the proudest records of patriotism, except to die for his country,—*pro patria mori*,—till, in short, the era arrived for him to bid farewell to all official greatness, and hasten home to what, alas, soon became his long, last home. He went amidst the thanks and honors of a grateful people, and doubtless in the expectation of many years of the most choice varieties of bliss that have survived the Fall.

His return was almost one continued triumphal procession, and though seeming, to us short-sighted mortals, as too quickly afterwards removed from the living, yet he died only when it is probable he would have lived no longer for the public service, but chiefly for his family and hosts of friends.

Like two of his distinguished predecessors as president, he was childless; but surrounded with almost every other blessing, and amidst all the solaces of his calm retreat, so deceitful are the promises of life, that in little more than three brief months he has been summoned to the dread realities of another world. "What shadows we are," may be seen most impressively in his fate, so soon to be obliged to part with

so many treasured hopes and enjoyments, and pass that "bourne whence no traveller returns."

He does not seem to have been unaware of his danger from the first approach of the king of terrors. He had been admonished on this same subject, by the same insidious foe, when on his visit among us in 1847. Long before the fatal blow was struck, he had felt his frame attenuated, and his hair thinned and whitened by its repeated attacks, added to his severe official labors. But he met his fate with fortitude and resignation. In the same house where his early friend and instructor, Mr. Grundy, lived and expired, he sunk slowly to his last rest with unclouded faculties, amidst the consolations of our holy religion, and with the sympathies of troops of personal friends, and the prayers and tears of a widowed mother and a heart-broken wife.

He sleeps now, where flattery, if indulged in, could not "*soothe the dull, cold ear of death.*" But it is only just to add, that a nation laments his premature departure,—a nation is proud of his name and fame,—a nation will embalm his worth,—a nation unites in paying the last sad honors to his memory. And while the authorities of this ancient and honorable city contribute their share in the ceremonies, the credit of it will be reflected on them no less than on him; and their liberality and magnanimity will help to illustrate both their own character and the high worth of the deceased, considering that it is able so to win their respect and draw forth their eulogies.

PEOPLE OF THE NEW ENGLAND STATES.*

THE PEOPLE OF THE NEW ENGLAND STATES. Ever obedient to just laws, righteously administered and wisely interpreted, as they are at present, by their inflexible representative upon the bench of the Supreme Court of the United States.

MR. PRESIDENT: — I fear that in the last toast justice has been somewhat blind, in alluding so favorably to myself. But the kind manner in which it has been received by the company requires my warm acknowledgments to the sons of the Pilgrims present, however far, and in however different pursuits, they may have wandered from their native homes.

New England has sometimes been taunted as cold and barren; and, instead of commendations for making even her ice and her rocks tributary to her wealth, it has sometimes been said, with sneers, that she possessed no other exports. But this collection of her descendants, like similar gatherings at this season in many other cities south and west of her borders, tells the world that she has another export, of which she may justly be proud. It is an export of men; — men, too, of such education, habits and energies, as build up and foster, no less than *constitute, a State.*

In this export, as in all others under the constitution, thank God, the business is free, untrammelled, — *a free trade;* and this not only among ourselves, but to every portion of the globe.

I do not say, then, look here, in the capital of the nation, to the Senate Chamber and the House; or look to the professional ranks of every State in the Union, on the bench, as well as at the bar; or look to the tillers of the soil on the Western prairies, or the sinewy arm of the mechanic in every city of the Union, and there find useful grafts from the parent stock in New England, sending forth vigorous shoots, and bearing rich fruits; but I say, look wider and higher, far beyond our own national limits. Some of the sons of the merchant princes of New England are seen on 'change in London, or dealing with the Hong-Kong millionaire in China, as regularly as in State street, in Boston; and, to show how beneficial is this enterprise, and how high their character is appreciated in other walks of life, in various quarters of the world, permit me to mention one or two illustrations connected with my native State.

At this moment, an emigrant from the shores of the Winnipiseogee Lake, in New Hampshire, holds a high rank in the navy of Russia.

* A speech delivered at a meeting of the New England Society, Washington, D. C., 1845.

Another, from the same State, has manufactured cannon for the Sublime Porte, in the dock-yards and armories of Constantinople; and within a month, I parted with one of her hardy and intelligent mechanics, on his way to Mexico, where he and his family have built cotton manufactories, more than five hundred miles west of the capital of Montezuma, on rivers that tumble into the Pacific. Ask, likewise, who established the great stage lines in that kingdom, and you will find it was another emigrant from the mountains of the Granite State, and that the carriages which now run over the ground where Cortez marched to victory were built either on the banks of the Merrimac or the Hudson.

It is unnecessary to enlarge on this; but, be assured, sir, it is a higher motive than sectional vanity that leads me to allude at all to it. Such reminiscences not only turn our minds back with affection to our fatherland,—"the heart untravelled fondly turns to thee,"—but they serve to keep alive a proper estimate of her wise institutions. They tend to diffuse them. The germs of a higher and better civilization, not only for this continent, but the world, are believed to be contained in her free schools, free churches, and free suffrage. Wherever, then, to climes however remote, these are carried with her sons, like household gods, their excellences soon become duly prized, and will in time leaven millions.

There is one other idea connected with this subject, and I have done. Statesmen and philosophers have been looking about for some time to discover what new race or new government is most likely to be the means of spreading a better state of morals and government and arts over the earth, till all people are improved, if not redeemed by it. The Asiatic races are worn out; Delhi and Jerusalem as dead, politically, as Babylon; the African race sunk with Carthage and Egypt; Europe is growing old, if not decrepit; but who can conceal from himself,—who that runs may not read, as if written on tablets of stone by the finger of Deity,—that this new world, whether our people be Norman or Saxon, Celt or Teutonic in origin, has a new theatre for new principles? longer maturing in New England, but now in some measure common to the whole Union, and which tend to uphold rather than destroy the reign of order and law and justice, and which, if diffused gradually but thoroughly, will tend to make a great fraternity of mankind.

This hope rests not on loose generalities or highly sounding epithets, friendly to popular rights and popular power, but on solid foundations, on written constitutions, equal legislation, the trial by jury, habeas corpus, equal distribution of estates, and all these, with much more, guaranteed as well as enforced by help of those free schools and free churches and free institutions before alluded to, which distinguish us so strikingly from any of the races and governments that have preceded us. In all this, sir, far from us be another thought, with which at times we have been reproached, that this hope,

and our new mission as a people, does or can rest on any league of Roman violence, or on revolutionary anarchy, or Mohammedan conversions by the sword, but rather is it that, since the Mayflower landed the first Pilgrim on our shores, the design, equally pervading our whole people, is believed to have been, and I hope ever will be, to use the sword of justice rather than of conquest, accompanied by her equal scales for high and low, rich and poor, and, by the aid of superior intelligence and morals, to harmonize liberty with law, and the rights and power of the people at large with public order, public security, and a rapid progress in everything useful to humanity.

Mr. Woodbury concluded by offering the following sentiment: — The land of free schools, free churches, and free suffrage.

THE PILGRIM FATHERS.*

I SHOULD not have made any observations on this occasion, had not the chairman requested it in connection with the last toast.

How little the gift of prophecy is bestowed on man, the event we celebrate shows most strikingly. Who among the little band of adventurers and exiles that unfurled their sails at Leyden for the New World, on this interesting day, over two centuries and a quarter ago, in search of freedom of conscience and well-regulated liberty, did foresee or even dream of an empire to spring from it, spanning a mighty continent?

Those humble voyagers were thoughtful of more than the ancient mariners in search of the golden fleece, or even the colonists of Phœnicia and Troy; but their early annals show a most modest and unaspiring ambition for wealth.

They sought not, as Mrs. Hemans so beautifully describes,—

* Remarks delivered at the celebration of the anniversary of the sailing of the Pilgrim Fathers from Europe, Plymouth, Oct., 1849.

"The wealth of seas — the spoils of war; —
They sought a faith's pure shrine."

Among them, too, were men who knew well their political rights, and men who scrupled not to defend them valiantly when assailed. They landed with armed soldiers in the prow of their boat, and afterwards, when the savages near had planned a massacre, Miles Standish dispersed it by killing suddenly two of their chiefs with all the adroitness and intrepidity of a Hannibal or Cæsar. Little was there to flatter or elate in their early labors for commerce. What think ye were some of their first exports? A few logs of sassafras, and a few bundles of clapboards!

But, in the mean time, their hive was yearly pouring out swarms which have since almost reached the equator, and quite settled the shores of the Pacific. Many revisit here yearly, as to their beloved Mecca, to worship and admire.

Her exports have thus changed not only to men, but to men with a set of principles in civil and religious liberty likely to revolutionize the globe. They are free conscience — free schools — free ballot-boxes.

Well may the descendants of the Pilgrims, here and elsewhere, feel prouder of this than of a trade in products of the forest or ocean,— of the plough, the loom, or anvil,— rivalling in amount what once loaded the wharves of Tyre or Venice.

The latter crumble into ruins; but the former, it is hoped, will prove universal and eternal.

Not to detain you longer, let me give as a sentiment: — Instead of the first articles of export from Plymouth, may her subsequent ones never fail; — ideas, examples, principles,— the soundest products of the mind, embodied into civil and religious liberty, and shipped to all quarters of the world.

SPEECH AT THE NEW HAMPSHIRE FESTIVAL.*

I FEEL honored, though surprised, at this unexpected call on me to reply to the toast in favor of New Hampshire. It is true that the call for this "festival of the sons of New Hampshire" has touched a chord which vibrates in the hearts of all of them, whether at home or abroad.

But I came here merely to acknowledge your generous hospitality. Yet, acting as now requested, I take the liberty to thank you most heartily for your warm remembrance of your native soil, and I think I may safely venture to assure you that the name and associations of the Granite State are in no portion of our hallowed Union dearer than among her quiet hills and valleys. It is gratifying to see men occasionally call to mind the purity and simplicity of the scenes of early life, and it is creditable to them to turn aside, for at least a few hours, from the anxieties and haunts of business,— the mere mammon of the world,— and think over and talk over the farm-house and fields of childhood,— their beloved Argos,— the village school and village church, the plough and scythe of growing youth or manhood, and the mother, sister and brother, who cheered you at dewy eve on your return from daily toil. This is purifying. Well, too, may some of you remember the gun and fishing-rod, which, while furnishing healthy amusement, prepared some of you, by the mimic war of the chase, to help to conquer so nobly at Palo Alto, and under the walls of Mexico.

It is not a matter of surprise to me, to see here to-night so many emigrants from our native State, considering the going forth yearly from her, as swarming from an over-stocked hive, and considering the enterprise fostered where it is necessary to obtain a livelihood, when the soil is not the richest, and the territory is small; and considering the good education bestowed there in the free schools, academies and college, and the hardihood acquired by a training in infancy among the Alps of the Switzerland of America; nor, considering all these, is it a matter of surprise to see so many of you scattered so widely, and with such cheering success, both elsewhere and here, having been able to furnish thus some senators in Congress, representatives, governors and judges, as well as professional men, mechanics and farmers, not only for every section of the Union, but cotton manufacturers for the waterfalls of Mexico, merchants for the exchange of London and

* Held in Boston, Nov. 7, 1849.

Paris, and admirals even for the navy of Russia. If not particularly fruitful in crops, beside her granite and ice, your native State is generally conceded to have been fruitful in men, and her exports of them are seldom more highly appreciated than they deserve, as may be seen by the specimens here this day, residing among you. When asked for her wealth, and especially her jewels, she often points to her sons. She sends her daughters, likewise, to all quarters of the country, which allusion will not, I hope, be deemed amiss, though in a "festival of her sons."

They are in such demand for domestic industry and virtue, as guardians of the spindle in numerous factories,—as teachers of the young in many seminaries of learning,—as wives and mothers in every sphere of life,—that most of us, and at least those who, like myself, have some interest in the question, may be excused for feeling some pride in their modest worth.

There is one deserving trait in these emigrants, not to be forgotten by those at home, and of which this festival is a strong proof. They are not ashamed of the State which gave them birth. Indeed, though rocky as Ithaca,

> "Lives there a man with soul so dead,
> Who never to himself has said,
> This is my own, my native land?"

Within the space of a few months I once visited every State in the Union but two or three, finding "sons of New Hampshire" in all, and, thanks to Providence, among all the host, very few were reluctant to acknowledge their origin,—to hail from New Hampshire,—or forgetful of the many excellences, in some respects, of their fatherland.

The same hardy industry continued to distinguish most of them which animated their ancestors to fell our forests; the same independence of thought and action which led them to set up for themselves, near a century before the Revolution, and, as a quaint writer remarked, to *trot no longer after the bay horse;* the same indomitable courage which manned their nerves to face unappalled the fierce Mohawk; the same patriotism which led them to fight for the mother country and themselves at Louisburg, under Vaughan and Pepperell, (both from Portsmouth, and the bones of the latter still sleep near the mouth of her harbor,) and at Quebec under Rogers and Wolfe; the same love of liberty for which they bled on almost every battle-field of the Revolution, as at Bunker Hill under McClary, at Rhode Island under Sullivan, at Bennington under Stark, at Saratoga under Dearborn, at Yorktown under Scammel, and on the decks of the Ranger and Bonne Homme Richard under Hall and Paul Jones,—the same as since, in other wars, under the gallant Miller and McNeil at Lundy's Lane,—the same devotion to popular education, to civil freedom, equal laws, and all the great rights of conscience that distinguished then her statesmen and jurists, her Meshech Weares, her

Langdons and Livermores, and that, in every cloudy sky during the last half century, have marked the career of her people, and made them faithful to the true principles of the constitution.

In exerting your energies for the benefit of a sister State, it would be unjust to regard you as abandoning or deserting the habits and principles or the welfare of your *Alma Mater;* but rather we consider you as seeking fame and fortune in the spirit of liberty and independence; as gathering wealth, intelligence, useful arts and glory in this great nursery of all of them, and to bless your parent soil as well as any other place you may select for future residence,— "*the world before you, where to choose, and Providence your guide;*"—and also as repaying for a time to this sister State for emigrations thence to New Hampshire, like my own ancestors and those of many around me, near a century ago.

Go on, then, and prosper in all this, as you doubtless will, if continuing true to the principles and examples which, for many generations, have been beacon lights on your native hills, and which speak to us all, trumpet-tongued, every time we visit the graves of our fathers among those rugged cliffs.

Teach them, I pray you, to your children and children's children, who, in confiding love, climb your knees and watch with devoted faith every accent of your lips.

Teach them, as our Pilgrim Fathers said of the Bible, till you can find something clearly better. Then, whether in religion, politics, literature, the arts, or social life, like true reformers and patriots, do not, in this free country, persist in any manifest error; but, I had almost said in the name of Heaven, join the armies of improvement and progress and a higher civilization, and let *onward* be your watchword and your march.

SPEECH AT THE STATE AGRICULTURAL FAIR, CONCORD, N. H., OCT. 2, 1850.

My Fellow-citizens: — I was not aware until within an hour or two that any remarks were expected from me on this interesting occasion.

But it gives me pleasure to say, that the exhibitions of domestic industry presented to us this day have deeply impressed my mind with our progress, as a State, in the great arts and comforts of life.

Little more than two centuries ago the pine tree was our emblem; and the *pine tree money*, coined for us in Massachusetts, I have seen specimens of within a month. A vessel in the stocks shadowed forth next the industry of New Hampshire, and mast roads fit to bear some high admiral afterwards attracted public attention. Lumber, fisheries, and navigation, however, in time became secondary to the plough and the hoe; as the barbarian was driven further back, our gentle hills and rich valleys opened to the sun. And last came the loom and the spindle, to gladden every waterfall, and increase our wealth and independence of foreign powers.

This day has spread before us the thrift of all sections; this day exhibits many guaranties of our rapid growth, our liberty in labor, as well as many other privileges; and our independence, both in government and resources, for livelihood and comfort.

It is well to reflect, on an occasion like this, what can be done among us to improve the art of arts, — the foundation of all useful liberty; — the employment, as some of our most eminent statesmen have considered it, most suited to an intelligent, independent, and proud race. This may be accomplished; and it may be done by putting forth, as occasion demands, that ingenuity which belongs to the character of Northern States.

What if, in the course of providence, one of our great products for man and beast, one of the blessings attendant upon the discovery of America, — the potato, — should occasionally fail to yield its abundance? By our liberty to toil on a free soil from the Atlantic to the Pacific, we can raise substitutes, or, by our free trade over every ocean, we can, if need be, import them. I do not believe, however, that an article which, through the providence of God, has done so much as this to comfort, to civilize, and to bring into amicable relations the nations of the world, will be allowed, after having belted the globe, to come back to its native place and die.

Yet, should such be the case, we must not be ungrateful while the

hay crop, with others, is left to us. The former is the greatest of our products, and exceeds every other, except wheat, in its value. It would hardly be credited, unless witnessed to by statistics, that the hay of New England alone exceeds in value thirty-eight millions of dollars, and amounts to more than half the boasted cotton crop of the whole United States. This is still left to maintain our herds of cattle, our horses, and rich flocks of sheep.

Again, when hearing of the large plantations South, or the expanded fields of wheat and Indian corn in the mighty West, let us, small but industrious farmers, not envy their large pecuniary gains, and become dissatisfied with our small freeholds. It has been a maxim for more than two thousand years, that while we may admire large farms, it is most useful to the social virtues and civil rights to cultivate the small ones. This will convert an apparent evil into an actual blessing.

Besides this, let us not separate without remembering that agriculture, after being the favored occupation of man for six thousand years, is, in this late age of the world, to be advanced further, chiefly by the aids of modern science in improved manures and improved labor-saving machinery; and it behooves us, therefore, to turn them to immediate and practicable usefulness.

And though it has been said, as long ago as the age of Virgil, that he flung manure about in his Georgics *like a gentleman*,— let us, after it is collected and improved by every advantageous source, throw it about like skilful farmers and zealous reformers.

And if Dean Swift, more sagacious than pious, once declared that the person was worth more than the whole race of politicians who made two spears of grass grow where only one did before,— let us show, in our improvements in tools and agricultural machinery, that, by thus doing double the labor at the same expense we too have deserved well of our country.

SPEECH AT THE BUNKER HILL CELEBRATION, 1850.

MR. PRESIDENT: — The kind allusion to New Hampshire, just made in connection with the battle of Bunker Hill, deserves acknowledgment from some of her grateful sons. It may not be improper for me to attempt it, when requested by the presiding officer, considering that I was born, educated, and still live there, in sight of her granite hills, and have ever felt proud of her participation in the glories of the day we celebrate.

Like the mountain races in all countries, her people have always been distinguished for a military spirit, doing her full, equal share, if not more, in driving back from her bleeding frontiers, while a colony, the Indian barbarian, in conquering Louisburg, in fighting at Quebec under the immortal Wolfe, and in most of the perils and struggles of the Revolution, from the rally at Lexington, and on this consecrated anniversary, to the death of her favorite Scammel in capturing Cornwallis at Yorktown. In every contest since, too, whether hard fought on land or ocean, in the war with England of 1812, or in that with Mexico, recently and gloriously closed, her gallant sons have poured out their blood like water in defence of what they considered sound principles and their country's cause.

It is not marvellous, then, that such a people, so devoted as they were to the liberties and rights of the oppressed colonies, should have flown at the first summons to succor their brethren in Massachusetts, and punish the ruthless invaders of their soil, where yonder column now pierces the skies.

> "They came as the waves come, when navies are stranded."

McClary and Dearborn led on chosen bands from some of the first mountain ridges, after quitting the sea-shore. Stark headed others from the neighborhood of the little Monadnocks; and others, as the fiery cross reached their quiet abodes, rushed like the winds, under favorite leaders, from every hill and valley of the State. Many came with loaded musket in hand, mounted on horseback to expedite their progress; and boys behind them, too young for the war, but taken so as, with true Yankee prudence, to have the animals returned for labor on the farms in their absence; and in several instances in my youth I have heard those boys, then become patriotic men, describe the tears they shed on the way back, for not being allowed to join in the fight.

One of the fatal events of the battle to New Hampshire was the death of the gallant McClary, falling, however, where a soldier likes to fall, at the head of his troops. His name and worth have been warmly cherished by those who knew him well, and his brother, since marshal of the State for many years, was, like him, much esteemed for patriotism and all the manly virtues. I have long had and prized a portion of a liberty pole raised near their abode,—about the time the revolutionary struggle began,—fallen, but not decayed, any more than the principles of the Revolution in the breasts of their descendants.

Stark had enjoyed more experience than other officers from New Hampshire, having been engaged in the previous French war, and in many Indian encounters. He was looked up to most for advice and skill, but not for courage above the rest, where all were brave, and all true to the spirit of "the times which tried men's souls." General Stark had been a hunter, an Indian fighter, a prisoner among the French at Montreal, and ransomed by New Hampshire sending a public agent for that purpose, whose journal, many years ago, I read with great interest, in manuscript. The glory he afterwards acquired, in winning the battle of Bennington, justified the high expectations formed about him at Bunker Hill. Only a few years before his death, I travelled several miles to see and converse with him, and know how a hero looked. Picture to yourselves a man under the middle size, with whitened locks, bent shoulders, on the verge of ninety, with a voice, however, still firm, and with opinions very decisive, and conversation terse, and you can see all of the outward man which was left of one of the most daring of the chieftains of his day. The heart and soul, rather than the stature, constitute the essence of such men. A controversy was then going on as to who was the leader or commander in the battle here. His memory was considered by his family as not perfect, especially about recent events; but he replied without hesitation, when asked, that there was no commander of all the American troops on this hard-fought day, and that most of the officers who conducted men there, all being moved by one common impulse, and to one common end, fought the common enemy much as they deemed best, each acting pretty much on his own hook. The ashes of the noble veteran now sleep under a column of granite, erected by filial gratitude on his farm, on the banks of the Merrimac, in sight of the falls of Amoskeag, where he speared salmon in his youth, and near the beautiful Massabeseck lake or pond, where he trapped beaver in maturer life. To show the rapid changes in improvement under the free institutions he helped to establish, he rests now almost within hearing of the busy hum of the thousands of spindles in the flourishing city of Manchester, which late, even at the time of his death, consisted chiefly of a forest and arid fields.

Many other brave spirits from my native State, on the occasion now commemorated, fleshed their maiden swords on the summit of yon

hill, in competition with similar troops from this and other States. How often, in youth, have I *devoured up their discourse* on the daring of Putnam, the cool intrepidity of Prescott, the martyr firmness of Warren, the hair-breadth escapes of the bold militia, rank and file, and seen them show, with the crutch that supported their decrepit frames, "how fields were won," by aid of New Hampshire, not only at Bunker Hill, but Saratoga and Bennington. Though of the true Puritan stock, they knew that justice must sometimes use the sword, as well as the scales; and they never halted at war in defence of all those sacred rights which alone give value, security and honor, to life. It would prove tedious to add more on this occasion, than to say,—there, on those glorious heights, the blood they shed has helped to raise the richest fruits, and, it is hoped, will continue to do it forever. Among them are well-secured liberty, popular rights, freedom of conscience, self-government, and a Union as valuable as it ought to be indissoluble.

EDUCATION.*

PORTSMOUTH, N. H. *April 5th*, 1824.

DEAR SIR: In my excursion to Norwich, last August, I had the pleasure to form some practical acquaintance with your system of education. But I was unfortunate in not hearing your lectures on a subject of such unspeakable importance to our free government; and the misfortune is felt by me more sensibly, as I derive much information and happiness from your lectures on other subjects. So far as I understand your system, it has, with me, a decided preference over any other.

In the first place, it combines physical with moral and scientific education. This circumstance, to those parents who have experienced "the pains and penalties" of body that most sedentary men are heir to, is an invaluable improvement. That ardor in the pursuit of knowledge which is indispensable to excellence will never submit to such corporal exercise as is necessary to health, unless the exercise is a part of the system of education, and is made to combine pleasure with utility. A neglect of such exercise proves a Pandora's box to students, from which issue dyspepsias, consumptions, head-aches, vertigoes, and, indeed, all that host of maladies which hurry to an untimely grave so great a proportion of the genius and virtue of the rising generation. Your military discipline furnishes a species of exercise admirably adapted to these purposes, and, invigorating the mind with the body, produces that enviable state for the scholar of *sana mens in corpore sano*. The second distinguishing feature in your system appeared to me to be the communication to your student, by means of this exercise, of a very considerable degree of military knowledge. This is a species of knowledge not taught, I believe, systematically in any other seminary among us, except the academy at West Point; and so far as you make it a mere auxiliary to literary studies, and teach it as a polite accomplishment, and essential to form good soldiers and officers in our militia, your system is altogether original, and merits the highest praise. Our government being a government of the people, it must by them be defended from both usurpation and invasion. A large standing army agrees neither with its principles of economy nor the habit of its citizens. Its policy is

* This letter to Capt. Partridge, the Principal of the Military Academy at Norwich, Vermont, furnishes an interesting account of the system of education adopted by Capt. Partridge, and some excellent observations on the subject.

peace, and its great safeguard, in times of peril, must be the vigorous arms and the bayonets of those whose lives have been devoted to the arts of peace. But force without intelligence is blind,— it is a *brutem fulmen:* — and I am aware of no means so well adapted to give efficiency to our militia as a diffusion from our schools and higher seminaries of education of a due portion of military science, — a love of military exercises, and an alluring example of these in such young men of talents and wealth as may win others, less favored in these respects, to a cheerful performance of every duty connected with the respectability and usefulness of the militia system. A third excellence in your academy is the attention bestowed on morals, so far as they depend on manliness of character, polish of manners, and the sterner virtues of order, temperance and industry. Without casting any disparagement on the wishes or exertions of other institutions, it must be admitted that your course of discipline is in itself more severe, and at the same time more attractive; that with you neither wealth nor rank can buy an exemption from obedience and study; that your system tends to inspire pupils with sentiments like those attributed to Alexander of Macedon, showing it to be "a royal virtue to labor;" that you learn thereby example as well as precept,— that the rich and intelligent are born to higher destinies than luxury and indolence, merely *consumere fruges*, — that in aid of the common means of exciting to improvement you bring the strict subordination of military tactics, the pride and vigilance of military office, and the strong desire to obtain all those manly accomplishments which ought to be united in the soldier and scholar.

Your young men have before them many examples, in the splendid republics of antiquity, of the union of moral with literary and military worth; and in the close devotion to similar pursuits they will be more likely to seek and attain to a kindred excellence, not forgetting that in a government like ours, nothing is plebeian but ignorance, effeminacy and vice, and that the highest order of nobility is only the highest order of virtue and talents. In this way only can young men become worthy of public confidence and public patronage; to deserve which is a laudable ambition in any free man, is an ambition indispensable to the safety and glory of any free people, and elevates its possessors far above the chance favorites of fortune, intrigue and faction.

At a period of greater leisure, my dear sir, I may be able to extend these views; and, in the mean time, beg permission to renew assurances of my sincere respect and esteem.

LEVI WOODBURY.

To Capt. A. Partridge.

SATURDAY SERMONS.*

PRACTICAL POWER OF RELIGION.

THE preacher undertakes, in the outset, never to detain his hearers long. To many, this will, doubtless, be the most pleasant part of his discourses.

Furthermore, his "little hour" shall not be wasted upon any of the thorns and brambles of polemical divinity,— daring to abstain even from the popular topic of Trinitarianism.

The principles advanced shall be those recognized by Christians of every sect; and the application of these principles to the common concerns of life, or, in other words, the production of a living faith, will be the burthen of all his exhortations.

The importance of such an application of the sublime precepts of the Gospel is too often overlooked in the bustle of business. But those precepts were not intended merely to play around the head, and never reach the heart,— to exist only on paper, or in imagination, like some of the speculations of geology and astronomy; but to penetrate the "hidden man," enter the inmost recesses of the mind, and, influencing the habits and feelings, as well as the opinions, to renovate, and convert to the dominion of principle every thought, word and action.

Again, the actual practice of religion is not to be confined to the Sabbath or the vestry. Many put it on as a mere Sunday dress, when it ought to be worn at all times and places, being, in truth, that "inward adorning" of the mind which hallows and beautifies the whole character.

Why should such frail mortals ever seek to escape from the practical power of religion? That power, which, for our safety, usefulness and comfort, should be as inseparable from us as air or heat, should sit down with us at the domestic fireside, no less than in the sanctuary, should accompany us in our stores and on our farms, and should mingle in our estimate of political men and measures, as well as in our daily devotions.

Unless this be the case, it hardly need be added, that mere professions of religion are only "sounding brass," and that the divinity and worth of the Gospel become exposed to the sneers of infidel reproach.

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* Under this title several articles were published in "*The Portsmouth Journal*," in 1823—24. We have inserted only three of them.

But if that power constantly abide with us, though, in the language of Jeremy Taylor, "a storm of sad mischance beats upon your spirits," yet they will "dwell in those regions where content dwells essentially."

OBLIGATION TO DO GOOD.

It is a consoling reflection, that no condition is so high or low as to exempt us from the obligation to do good.

In stations the most elevated, the duty to be useful may be said to increase with the means; while the humblest individual is never long without both means and opportunity to wipe away some tear of wretchedness, to help onward some laudable enterprise, to pluck from the garden of life some noxious weed, or to practise in his narrow sphere the sacred law of kindness.

A deep conviction of a truth like this is calculated to animate in a course of virtue many fainting hearts, that are wont to despair of their ability to be serviceable in their day and generation. It may also awaken to renewed exertion many sluggards, many worldlings and backsliders, who, amidst their enjoyment of the good things of this world, often forget that the favorites of fortune are only stewards of Providence. But with them, as well as with the less affluent, it is a dangerous heresy to consider money the sole instrument of usefulness, or the only talent we are forbidden to lay by in a napkin.

The gold that perishes has its proper uses, and, at times, should descend, like the dew of heaven, upon the needy; yet it is not the sovereign remedy for a *mind diseased*, or for the broken-hearted, and can neither heal the wounds of sickness, nor bring solace to the mourner.

Without it, we are all able and bound to soothe the disappointed by active sympathy, to cheer the dejected by society, to guide the inexperienced by counsel, to improve the young by example, and to devote to all the great interests of mankind the utmost exertion of those powers intrusted to us by Providence. Even the poor receive not half the aid from frosty alms which is shed upon them by books and personal instruction, adapted, by receiving their confidence, to rescue their souls from moral ruin, and create habits conducive to lasting comfort and respectability.

Let all, then, whether friends or foes, in season or out of season, seek and improve opportunities to do good. No matter how various our powers,—no matter how humble our sphere,—the deed and intent ennoble him who is *constant in well-doing*. Indeed, "The same piety," says the venerable Hooker, "which maketh them which are in authority desirous to please and resemble God by justice, inflameth every way men of action with zeal to do good (as far as their place will permit) unto all; for that they know is most noble and divine."

HYPOCRISY.

HYPOCRISY is solemnly and repeatedly denounced in Scripture. But it is unfortunate that, in general opinion, the woes threatened against this vice have been applied only to the sacrilegious guilt of dissimulation in religion.

We admit the flagrant impiety for a being, who is *the dream of a shadow* and whose *life is but a vapor*, to attempt, in the holy confession of his faith, a fraud upon Omniscience. Yet the smallest concern of business is equally open to an all-seeing eye; and, however deep we may varnish, the least stain of deception remains uneffaced, and in a moral view taints the transaction with wickedness.

We cannot now stop to notice any of the casuistry of Paley and others upon this point; but merely insist on the general principle, that, in the common intercourse of life, all crafty courses, which require, either in word or action, the sacrifice of truth, are hostile to the spirit of the Gospel. They are, likewise, unmanly, the scoff and scorn of the honorable. In the quiet of reflection, they often humble, in his own eyes, the slave to their meanness. Though crowned with temporary success, they leave behind a sting. They demand constant apology, and prove a nuisance to all social confidence and disingenuous friendship.

A powerful check to every species of hypocrisy would arise from a lively consciousness of the omnipresence of God, since the subtlest frauds, the most knavish slanders, the darkest windings, and the hollowest professions, are all open to his inspection as the meridian sun. In fine, whatever *goodly outside falsehood hath* will be stripped off; as Heaven cannot be insulted with impunity, and its righteous government cannot permit the overthrow of all trust in human integrity.

Not only "the hope of the hypocrite shall perish," but the calumniated may rest assured that truth and plain-dealing will, in the end, insure a triumph, and, in the language of the *Shakspeare of divines*, "make us live even beyond our funerals, embalmed in the spices and odors of a good name."

APPENDIX.

APPENDIX.

DESCRIPTION OF THE WHITE MOUNTAINS.

P——, Aug. 17, 1818.

MISS E. W. C.: —

MY FAIR FRIEND: The interest which, last spring, you appeared to take in the accounts given by our party of their tour through the Notch of the White Hills, strongly tempted me to give a "local habitation" to some of the impressions made by the scenery we witnessed. But a question arose. Those impressions,— what could I do with them? Should they be flung to the cold curiosity of the world? or should I be justified in presenting them to some one who blushes at the idle gaze of that world, and loves the calm retreats of literature and taste? My *heart* preferred risking the latter course; and these hasty sketches are the result.

Indeed, the task hath been far from grievous, if task it may be called; since to trace over in fancy what I have before beheld with pleasure, is always delightful. But satisfactions of this nature are undoubtedly increased to those happy few who can make the scenes thus revisited glow in poetry or breathe on canvas. Yet, after twice wandering to the White Hills, it is no less marvellous than true, that I am neither a poet nor a painter. Had my genius, however, any aptitude for verse, those natural wonders must have inspired it with all the warmth of the most animated imagery; as, without indulging in much of the license of the rhyming craft, it may be said that Helicons there gush from every cliff and the Muses saunter in every dell. What a landscape, too, for the pencil! and, inanimate wretch that I am, not one rude outline was sketched,— not a single shade preserved; no, nor a solitary tint from the verdure which clothes their sides, the sunbeams that gild their summits, or the rainbows which bend over the

basins of their waterfalls. But what little enthusiasm I possess would be satisfied with the only medium left for communicating my impressions, did not "plodding prose" appear more dull than usual in consequence of the distance of time which has elapsed since those impressions were made. They should have been committed to paper when fresh and glowing with the inspiration of the moment; for now, when memory reverts to the scenery which most fascinated, either the shadowy image flits from her embrace, or the poverty of language falters in expression.

Take, for an example, the first distinct view of the White Hills which is obtained in May by a traveller from Windsor to Lancaster. I can well remember the "lovely wave" of the Connecticut, as it meanders, in Haverhill, through the rich meadows of the Oxbow, bordered with venerable elms, and bearing on its bosom the hardy boatman and the snail-paced raft. Nor could any one forget the wild rapids of the Ammonoosuck, and the abrupt cliffs and happy valleys on its banks, from Bath to Littleton. But as you leave its impetuous torrent, and, inclining again to the Connecticut, ascend the eminences which separate the two rivers, you have scarcely ceased to linger on the romantic echoes of those rapids, so enchantingly softened by distance, when, looking back to the south and east, a spectacle is presented, whose magnificence can never be conceived by those who have not seen and admired it! The Moosehillock, on your right, is wound in a sheet of snow, almost from its base to those lofty summits which disappear in the white clouds that float above. The Franconia mountains draw nearer, and stretch to the left. From their iron foundations upwards, with the exception of a few patches of cultivation, they present the outline of a dark and impenetrable forest. The long range in Lincoln extends further south. It then overtops the mountains in Franconia, and heaves up from its dazzling heights the appearance of huge crags of ice, intermingled with bald granite of a brown hue, that seems here and there to slope downwards and deepen into a wilderness of evergreen or moss. Further left the eye rises over the Great Haystack mountain, and roving further still to the eastward, is suddenly intercepted by the grand object of all its wanderings, and, for a moment, the end of all its wishes. The White Hills here burst on the view, and almost literally "prop the sky." They fill the horizon, like vast mountains of snow, drifted on high, heap over heap, till mingled with the heavens. Their base reposes on the eastern border of the carpet of forest which spreads its verdure before you, and which, united with the various coloring and sublime structure of mountains around, strikes the beholder with overwhelming beauty and grandeur. Unlike the prospect in Shelburne and Bartlett, the summits of the White Hills do not here seem to shoot up as pyramids, but resemble more some mighty cone, broken off by some great convulsion of nature, and presenting at its fracture many waving ridges. On these cold summits nothing was visible or variegated by day, except the bright flashes of the sun, occasionally

shaded by intervening clouds; and every one knows with how little aid from imagination the eye can, in such views, trace, "embodied forth," the fantastic figures of castles and armies in "panoply sublime." Even at night the outline of the mountains was discernible by the soft lustre of thousands of admiring stars, and by the pale moonbeams, that seemed frozen to the lofty masses of ice on which they calmly reposed.

As you proceed northward, the White Hills are lost in the wilderness behind you. It is not till arriving at Lancaster they are again recognized, and your impatience rewarded beyond the warmest hopes. One who has not visited these picturesque regions should never suspect that the painter of them dips his pencil in too deep colors, or, in the language of Cowper,

> "Adds a brighter hue
> To nature's scenes than nature ever knew."

Their lack of resemblance to common landscapes can be estimated only by actual observation. You well remember, also, that to the same person, with different company or in different health, the same object assumes different aspects; and what in one situation looks *sombre* and sad, presents in another a reality to describe which imagination would toil in vain. Regardless, then, of everything but fidelity to my own impressions, I shall, in haste, sketch the scenery just as its images now flit over my memory.

Having reached Lancaster, an irregular village on the skirts of the wilderness, and near the mouth of Israel river, you stand upon an extensive plain, over which probably the Connecticut once rolled his floods. On your north and east and south every avenue appears fenced up by mountains of the wildest structure. They form a perfect amphitheatre. The White Hills are southwardly of the centre of the range, and are "proudly eminent." The warmth of a radiant sun in May, flaming upon the immense fields of snow that buried their summits, caused an evaporation, which, at this distance, veiled them in a thin mist, and softened their color into a delightful azure. Their tops looked more disjointed than at Littleton. But still you discover nothing like a passage through the towering masses which crowd all parts of the horizon, till, turning to the west, the barrier of rock and forest breaks down and shelves into the bed of the Connecticut, to spread again in Vermont into undulating swells, that constitute the verge of the Green Mountains. You approach the White Hills from Lancaster in a south-eastward direction, tracing up the gentle current of the Israel river to the very fountains from which it oozes, at their feet. Your route, for the whole twenty-five miles, is very direct, and the dark wilderness on either side but seldom broken by cultivation. The White Hills seem retiring as you advance. The Pondicherry mountain draws nearer on your right, and the Pliny mountains, at a short distance, wall up your left. A deep foliage clothes these to their

utmost heights of many hundred feet; and your road resembles a canal, channelled out in the forest, and drawing to a point in distant perspective, at the end of which are piled up the gothic battlements of the White Hills. Except an occasional glimpse of the Israel river, through boughs of tamarack and spruce, and except here and there a bank of violets damasking the wayside, or a mossy fountain murmuring through the underwood, or a deserted log-hut, with tattered lattice and fallen door, around whose ruins the famished wolf howls by night and the timorous deer crops by day the rank grass that shoots through its crannies, while its restless proprietor has wandered with his little household to the land of promise in the West; — except a few interruptions like these, the whole soul becomes absorbed in the novelty and grandeur of the scenery you are approaching. Indeed, you almost forget every other fascination of the eye or of the fancy, in gazing forward at the towering cliffs, which no iceberg of the poles could exceed in splendor, when we behold them burnished with the radiance of a setting sun.

But we loiter too long on the way. Arrived at Plaisted's, in Jefferson, a morning prospect of the Hills from the alder-fringed intervales of the river just mentioned discloses new charms, and presents three summits very distinctly elevated above the remainder of the range. The eye is here relieved from the dazzling whiteness that dimmed it at Littleton, as the sheet of snow appears occasionally rent by projections and ravines. The long and dark shadows, also, which stretch over their western verge; the bleakness of their surface, where barren of vegetation; the disappearance of the small mountains behind you; the instinctive awe at drawing so near to so much vastness and desolation, — all crowd on the mind, and magnify their bulk and sublimity. As your carriage is rolled onward, the great mass of the hills appears inclining to the left. But, even at Rosebrook's, only four miles from their base, on the romantic meadows of the again welcome Ammonoosuc, no passage is visible through the vast wall of granite and snow that blocks up your course; and you seem precipitated down the path, to be dashed, ere long, against the rocks that rest at the feet of this monarch of mountains. Nay, you are at the very source of the Saco, within thirty rods of the Notch itself, before much apprized of the extent of the wonder so near you. But here the happiest description would prove imperfect. For you have noticed on your right a limpid rill, winding out of a thick growth of birch and alders, and have been tempted to alight and step over its crystal current to pluck the flower of the laurel and the blossom of the strawberry which embroidered its western bank, and are still musing on the ripple of the water, so much more quiet than hundreds of brawling brooks you have recently passed, tumbling to the north, when your attention is excited by perceiving that the settled course of this unassuming rivulet is directly against the mound of hills which have so long frowned before you in such formidable magnificence.

Much as the mind may have become elevated by a succession of scenery so picturesque as that already beheld, and much as it may be prepared to witness everything marvellous in these enchanting regions, still you feel it irrational to look to the southward for a passage to any stream, however deep or impetuous, and particularly for an outlet to one so tranquil and feeble as the infant Saco, just gushed from its parent fountain. But the eye hurries along the course of the current a few rods, when who can picture your amazement at finding every obstacle vanished! The mountains — these immense mountains — have been rent asunder to their base. On either side are heaped cliffs o'er cliffs, till they are lost in the sky. A soft and inviting azure breaks through from the south, a dewy coolness is wafted upon the sense, and you hasten down the margin of the stream to the frightful entrance of the chasm. Here every power seems suspended. The bottom closes upon you like the moated walls or rocky dungeon of some gloomy castle of the twelfth century. The Saco at your feet is increasing. Your path, which is a mere embankment from the bed of the river, appears to wind into a darkening and endless gulf; while upward from the rusty granite on one side, that rises many yards perpendicular, and then, slowly retiring, climbs into ragged pinnacles of an unknown height, it is but twenty-two feet to the projecting crags on the opposite side, that first nod over the stream and then swell backwards into black ridges of impervious spruce. It is difficult to speak with precision of heights which look so immeasurable. Standing at their base, too, and considering their abruptness, the whole elevation is not always visible, and the imagination is left to fill the unseen. But when we know that a few summits exceed seven thousand feet, an acclivity of a few hundred, though striking in other places, must not be considered as remarkable here. It is indeed but a mere doorstep to the mountain itself. And what mighty deluge of the northern world, think you, burst these gigantic mounds to empty itself into the Atlantic? or what tremendous earthquake heaved apart such a range of hills, without crushing by the convulsion the surrounding country?

But a truce to speculations, till we have disposed of the scenery. Onward a few rods from the massy entrance of the Notch, you perceive that a huge fragment has rolled from the precipice and half obstructed the Saco, now threatening to rise in a torrent. Many smaller stones, lodged in your path, seem recently to have fallen from their dizzy and decaying beds. A few paces further, and a long drift of snow variegates the dark color of the evergreens near the summit on your right; while a single mountain ash on your left starts from a high fissure in the rocks, and is preparing to perfume the air with its white blossom, and ravish the eye with its blushing berries. The gaudy butterfly is displaying, even here, his yellow purple. The robin, too, warbles from the woods, and the thrush assumes her "love-labored note," as wild and enchanting as the scenery which inspires it.

But a hoarser sound soon strikes the ear, and arrests the whole

attention. Remember that the narrowest pass is behind you. On your right, the dark eminences have receded a few rods. The maddening torrent of the Saco has plunged into a deep valley below, and you are hurrying down in search of the new wonder, when, turning a small angle to the left, your foot involuntarily recoils at the nearness of the object whose wild echoes have so strongly seized on your curiosity. Over the highest visible point of an elevation, distinctly seen, more than seven hundred feet, and covered to its utmost verge with the thickest foliage, bursts a cataract, that not only thunders down to your very path in a continued foam, whiter than the snows themselves which have swollen it into such fury,— but it crosses under a light bridge and tumbles downward in the same headlong career till it dashes into the Saco, two hundred feet below you. The mind, for an instant, doubts the reality of what resembles the necromancy of some mighty magician, so much more than the simple and accustomed attire of nature. Pause a moment. Recall the blue canopy of Italian sky that bends over our heads; the vast mountains that still block up the south; the ridge a few rods at our right, that shoots along more than a thousand feet high, and over whose waving summits an afternoon sun flings his brightest beams, and, at the most elevated point, seems halting and reposing his orb as loath to leave the scene; the frowning precipices behind, between which you have just ventured to pass; this stupendous waterfall on your left, with its spray arched into all the brilliant hues of the rainbow; and then consider, that, far as the eye can reach, in every direction, not a vestige of man is visible, save the narrow path we tread on; and perhaps you will thus be able to imagine some of the awe and inspiration of the objects that encircled us. Here it may justly be said, that "man crumbles into dust," and that the language of those scenes is "the preaching of the heavens." The solitude of the wilderness seems filled with the living God. Overcome by such emotions, the mind sinks into a calm abstraction from the earth and all its sublimities, and reposes on their great Parent and Preserver. But every half mile rouses to new admiration. New cliffs appear on every side, upon whose dizzy summits of bald rock and dwarfish spruce the eye gazes till it aches. The eagle alone seems fitted to track the tops of many of them, and there her young are literally "nursed in the tempest" and "cradled by the storm." On the shelving sides of others, the moose sometimes roams; and along the glens at their base, the deer, frighted by foot of "early passenger," occasionally starts. The exterior of most of them is much diversified. A mantle of the deepest green is folded over some of their highest pinnacles. The spring torrents have worn down both the earth and vegetation of others into the valleys below. The naked rocks on others appear rent by lightning; and the barkless trees on others, desolated by fire, resemble at a distance the shattered masts of some shipwrecked navy. The most elevated summits of the White Hills are far to the left, and here invisible. Though less abrupt, they are still

difficult and tedious of ascent. The intrepidity of modern tourists, however, has ventured beyond the confines deemed sacred by the Indians; and the loftiest portions of them, even the fancied abode of the Great Spirit, though supposed to be unapproachable by mortals, have been recently profaned by the foot of many a wanderer, who survived to return and describe the grandeur of the prospect.

Journeying onward, you perceive other cataracts, of almost every size, tumbling from other cliffs. The Saco is swollen by hundreds of tributaries into a bold and impetuous flood, which rolls under your feet more than twenty times in passing half that number of miles. The labyrinth of mountains slowly opens, and you can just discern

> "The distant plough, slow moving, and beside
> His lab'ring team, that swerved not from the track,
> The sturdy swain, diminished to a boy;"

but still, though one or two hours' travel from the Notch, the hills on either side have not receded a mile, and no prospect appears of your ever being released from their enclosure, except by threading to the sea the turbulent river that thunders along at your feet. As you look back with feverish solicitude to take a parting view of the vast objects you have so often admired, nothing reäppears but scattered peaks, of an elevation of twelve or fifteen hundred feet, till, in the south part of Bartlett, you descry again to the northward those snow-clad summits that tower over the whole country around. But here their outline becomes totally changed. Instead of one enormous pile, propping, like Atlas, the incumbent sky, or instead of a long waving range, whose highest points are with difficulty distinguished, three immense ones shoot into the heavens, and are separated almost to their base by deep and ragged chasms; while the myriads of smaller pinnacles, that crowd around on the west, south, and east, appear like mitred lords attendant on their gothic sovereigns. We clambered through a thick-woven copse of underwood and forest, to behold the basin of one torrent from the cliffs, that fell, in an unbroken sheet, something like sixty feet. The hills and woodlands, far and near, echoed to its roar. The excavation at the bottom was on one side calm as a lake at evening. The spray on another side was tinged high with the sunbeams. Vast crags of rock hung over another quarter; and from another the water rushed out, to dash again with renewed strength down other declivities. The spruce in some places bent over the cascade and was sprinkled with foam; in others, the birch and maple were gently reflected from the soft bosom of the basin. On its south margin the air seemed hush as death, and not a leaf quivered with the breeze; while an alternate current of warm and cold wind on the north shook the alder flower from its stock, and beat the blossom of the heath-bush into the moss at its roots. The ivy was forced to fold closer its embrace, and the ruby partridge plum, clinging to its stem, looked drenched in dew. But why do I dwell on a subject like this? Nei-

ther botanist nor painter, I fear you will be unable, from my clumsy descriptions, to trace with your pencil a single view. If unsuccessful, however, you must repair my imperfections by visiting the scenery yourself, and stealing new graces from its enchantment. Should some "Paint King" of the Notch seize on your person to improve the color of his roses or lilies, I have chivalry enough to fly to your rescue; and in those romantic haunts, if you choose to become a nymph of the woods or a naiad of the fountains, who would not be proud of guarding your grotto and keeping

> "From thy recess
> Each vagrant foot and each licentious eye"?

On turning back, I am really frightened at the length of this hurried sketch, but do not possess leisure to *shorten* it, and must also defer some miscellaneous remarks to a future postscript. But your kindness emboldens me to expect pardon for so uncivil a sin as being tedious to a lady whose imaginary presence has prevented anything from seeming tedious to

Your more than friend.

P. S. In your sketch, to be faithful to nature, some portion of the Hills may be rendered white without frosting them with snow. The thinned forests of dry trees on a few swells, stripped of their clothing by fires and tempests, present a pale aspect for many miles distance. The sides of others are whitened by the foam of torrents and by ridges and ravines devoid of all vegetation. Scattered around indiscriminately, naked masses of rude graphic granite, and patches of coarse sand formed from its decomposition, heighten the coloring produced by other causes; and it is with no little interest one searches for crystals of quartz, which are washed into the channels of some of the streams from the perishing rocks that border their banks. The size of the crystals is various; but the fine prisms which their shapes assume possess a transparency as pure as the water that flows over them. Their color is sometimes tinged by a light purple, yet still without diminishing their power, like the diamond,

> "To sparkle on the fair one's breast,
> And emulate the brightness of her eyes."

As a general outline of the whole scenery, you must not forget that every view of the mountains is either wild, picturesque, or vast. Remember your approach from the north, their cloudy height and chameleon color — the long vista through which you journey to their base, in the dark forest of Jefferson and Brettonwoods — the shady ramparts of the Pondicherry and Pliny mountains at your sides, with the intermediate distance crowded by spruce and birch, whose interwoven tops form to the eye a carpet of verdure, gorgeous

and unrivalled — the surprise excited, when, having reached the foot of these western Alps, you see their whole dizzy height, separated by the Notch and cloven down to your very path — your entrance into this frightful fissure — the torrent of the Saco rushing by on your right — the cascades and echoes of its tributary streams, that tumble from the battlements of rock and fir, which on one side darken the air, and on the other intercept the clouds that sometimes float on their tops — your gradual descent through this immense chasm — the slow receding of the mountains, as you pass onward to the south, and wind your way through precipices and lawns and darkened dells — the apparent marks of some earthquake, "which must have shaken the astonished world," that are occasionally scattered around, and that

> "Fill the brown shade with a religious awe."

Remember, too, "the trembling rills," as well as "the headlong torrent," which

> "Find a fane in every sacred grove,
> And sing the God of seasons as they roll."

And consider, that even the angry Saco, as you emerge from the wilderness and hills, becomes a "softer flood," and

> "Slow winding through a level plain
> Of spacious meads with cattle sprinkled o'er,
> Conducts the eye along his sinuous course,
> Delighted;"

and never, no, never did the Peneus flow into the Ægean through a more fascinating Tempe than borders its meandering current and banks of elm in Conway and Fryburgh.

One circumstance more, my indulgent friend, and I am done. Do not forget, in your sketch, that the tributaries to the Saco, the Ameriscoggin, the Pemigewassett, and Connecticut, appear to have worn down to their foundations those elevated ridges which may once have connected the thousand hills that cluster around. You must, therefore, make the bottom of this picturesque country an immense plain. You must intersect it with rivers, and furnish a border of rude mosaical forest and cultivation. The White Hills, like irregular pyramids of vast bulk, must swell from the centre of the surface, and the smaller mountains, at unequal distances, must diminish to the eye, like the weather-beaten tents of pilgrims who have journeyed from afar to gaze and admire and worship.

ON MUSIC.*

I REALLY feel diffident in addressing this audience, many of whom, on similar occasions, have listened to such orators and musicians. But I forget even haste and business, at the intercession of friends; and, indeed, my pride would be much greater to gratify their wishes and rescue from censure their judgment in this appointment, than to gather forests of ephemeron laurels for my own brow.

On the present, as on all other anniversaries, you will undoubtedly expect sentiments connected with the origin and object of the thing celebrated. For the reason which has induced men to institute and cherish such venerable customs, that those principles may be perpetuated which gave existence to the customs,—this very reason, I say, instructs us to effect such an object by investigating those principles, and enforcing their importance. As music, then, was "the being's end and aim" of our fraternities, it may deserve at this time exclusive consideration. And though the topic has on occurrences like this been nearly exhausted, and the task of an orator and hearer become almost equally toilsome, yet our mutual sympathies may support us a few moments, while I glance at its nature, and influence, and improvement. No fear need be entertained that these divisions of music will ever become too perfectly understood. In fact, an ignorance of them has heaped much contumely on our subject, and engendered many evils in society. What then *is* its nature? A mere definition of it seems incapable of teaching us; as does also an intimation that it is one of the liberal sciences; or even more, that it is likewise a practical art. These are indeed description, though even as such, perhaps, both "lame and impotent;" but they surely impart nothing on the principles or essence of this beautiful study. We may, however, assert with safety, that music presupposes *sound;* and this, whether it be vocal or instrumental, articulate or inarticulate. Let not any apparent simplicity in this observation render it trifling; although it is freely conceded that music could never reign where sound had poured on the ear or flowed from the tongue, unless something *more* was attendant. For if most agitations of the air be in certain respects musical, yet they are not so when sound, simply, but when sound exciting in the hearer peculiar ideas. If not effecting *that*, it is impossible they all should be melody to all, as much as that all human articulations should be language to all. For instance, the

* An oration delivered at Dartmouth College, 1812.

howl of his hounds may be music to a sportsman, but discord to a scholar; while Hebrew is to the latter an elegant tongue, but to the former a wretched croak or heathenish gibber. This notion, closely scrutinized, will assist us much in the illustration of our inquiries; for generally and abstractedly music and language are the same — both sound, and both sound expressing ideas. But how the former expresses or excites them is another quality in the nature of our subject, not perhaps unimportant. And firstly, it may excite them by an association natural, certain causes and effects always having accompanied certain sounds; or secondly, it may excite them by an association arbitrary, certain sounds having been used or agreed on to represent certain objects and ideas. The former mode, however, is more generally employed. But to be perspicuous as possible, let us, in fancy, travel back to a period when neither music nor language existed. A sound then from abroad strikes the ear of some new-created Adam; and when he ascertains its origin and consequence, will it not leave a definite idea on his mind, which the same sound, as a general principle, will ever after revive or suggest? Under the influence of particular feelings let him also utter one himself; and an image of those feelings will recur when reüttering or re-hearing a similar one. Thus would soon exist a collection of sounds, that must all represent distinct ideas. For combinations of these, there might be combinations of those; and in this manner would quickly be created the elements of music or language. Do not understand me, however, to suppose, that a resemblance *always* exists between these sounds and the sentiments they excite, but simply that an *association* is naturally or arbitrarily constituted; and therefore, when the former enter or strike the mind, they are followed by the latter. Whether this is constituted too by the nature of things, human compact, or divine command, is an old question, which, however common, never had my consent to be dragged down from the shelves of scholastics and monks. At least, it is sufficient for the present purpose that certain sounds occur, and by such association, as before mentioned, excite certain images; but all the remainder is no more material than it is whether you denominate the process music or language. In advanced stages of society, however, some *technical*, and, in fact, *substantial*, distinctions exist between these two. And, being strictly relevant, we will notice a few of them, under an expectation that they may illustrate the nature of our subject. Music, then, in common parlance, means not only sound reviving ideas, but sound which naturally revives ideas; while language means sound that arbitrarily effects this. I speak now of neither as written. They both too, when uttered, operate by imitation; but one, as a general principle, imitates the sound that *involuntarily* precedes, attends, or follows events, and thus recalls them to memory; while the other imitates that which *voluntarily*, by compact or habit, accompanies or represents certain occurrences and sensations. Hence, in primeval stages of society, the

former would be applied to wake in remembrance only the most obvious, attractive, and, at the same time, sonorous, objects; the rivulet or torrent, the whirlwind or thunder, the distraction of woe, the ecstacy of devotion, the despair of love, the frenzy of battle, or exultation of joy and triumph. All these would fall particularly within the province of music. But color, roundness, breadth, ingenuity, reflection, &c., being in *nature* unattended by any peculiar sound, could be associated only by imitation of an *arbitrary* or agreed one, which should represent them. These, then, fall particularly within the province of language; and you can no easier express them by music, than, as Lord Bacon observes, you "can weigh measure, or paint the wind." Indeed, while the former can, in its despotic sway, extend an empire over all the subjects of the latter, this seldom can encroach on the peculiar territory of that. Some faint impression, to be sure, may be produced by the analogy existing between such things as beauty and softness, distance and duration, sublimity and loudness, disorder and discord,—yet, generally, the art must be restricted as above; at least it possesses perfection and efficacy only when applied to such subjects—to those sound naturally accompanies, and which rouse the strongest agitations. Or, why does Collins relate—

> "While yet in early Greece she sung,
> The passions oft, to hear her shell,
> Thronged about her magic cell,"

and

> "From the supporting myrtles round,
> They snatched her instruments of sound"?

Or why, too, is every language at its origin highly musical, and, in fact, almost poetry itself, but because uncivilized people attend only to striking objects, acute feelings, violent emotions? and hence their conversation bursts forth in the untutored melody of nature. Or why are the first productions of literature an Iliad and M'Fingal? the earliest authors a bard and minstrel? Why, in our pastorals, "shadowing forth" the very next states to barbarism, does the shepherdess of Theocritus drive her sheep in song, and the shepherd of Shenstone lament only in rhyme? To be brief, at these periods of society all, on account of the preceding reasons, is music or poetry; and they are but sisters from the same sire,—Apollo being the acknowledged god of both.

We have as yet considered the nature of our subject only when not accompanied by words,—I mean by them, mere *arbitrary* sounds to express ideas. Add these, and perhaps the full properties of music will be more apparent; for the excitement which sound *alone naturally* produces cannot equal that which it *naturally and arbitrarily conjoined* produces, namely, in both modes operating at the same time, and reviving the same image. This would seem self-evident

In fine, if the mere sound and the mere words be each definite, and at one moment associate but one sentiment, music then exhausts her utmost power. Her whole treasures of enchantment are poured at once upon the enraptured ear; and then it is her fabled omnipotence may give motion to the forest, arrest the tiger in his fury, and suspend for a moment even the torments of the damned. But, singular as the fact may appear, some are affected by sounds alone more powerfully than if they were accompanied by words strictly appropriate and highly elevated. This, however, may be consistent with the nature of music, as before explained; for certain persons must often be impressed by one object stronger than by two, though similar and conjoined, because an intellect unaccustomed to complex ideas, to rapidly regarding, combining or comparing many subjects, does not instantly perceive their connection or identity. And thus two, instead of causing a double effect, by adding their respective powers, produce but half the effect, on account of the division of their respective powers. The mind receives a fainter image in regarding them, because diverted to each, and not concentrated to one alone, or both joined. So, at times, with sound singly, and sound attended by words.

Music in general, however, or at least church music, is considered defective, unless accompanied by language. But its nature is such that this intended auxiliary often proves an enemy, instead of an ally; for, beside the reason just adduced, which operates in some instances, if the terms employed express ideas not analogous to those revived by the sounds, they must in every instance mutually destroy each other; and, thus conflicting, the possession of as many ears as rumor, and as many tongues as Briareus had hands, would render this confusion itself only more chaotic. If analagous, however, I concede, as before, that in most cases both are heightened in beauty and deepened in their impression. This may, perhaps, be fully illustrated by a reference to common language. Every scholar knows the additional force and elegance of an epithet to express a sentiment, when the sound of that epithet, as well as its arbitrary meaning, associates the sentiment to be expressed. At least, every poet knows this, and employs it as an ornament, no less attractive than brilliant, of "immortal verse." Yea, show me even the critic, however cynical, who has not hung in rapture on the "*phloisboi thalasses*" of Homer, the "*quadrupedante*" of Virgil, the "grating harsh thunder" of Milton, and "the longing, lingering look" of Gray. Thousands of omitted examples rush upon the mind; but all demonstrating the different and superior nature of music, when attended by words of similar signification. Let them, however, be of dissimilar meaning, and the picture is reversed; for, to draw illustration from the same source, the language of some whole nations, as spoken, we all recollect to be singularly melodious, and they are not music itself only for the variety of reasons heretofore mentioned, but principally for the last, that they do not revive similar sentiments by their sounds and their words. The former excite asso-

ciations of one kind, the latter those of another. Thus, as in many tunes, the sound which, alone regarded, would produce a strong musical impression, is weakened in its effect by the words diverting our minds into opposite reflections; but a person ignorant of the meaning of such a language would enjoy the full influence of its sound alone, and to him it would really become a species of music. All remember this characteristic of the Greek tongue, particularly its Attic dialect; of the French, also, and, more strikingly, of the speech used by many African clans and Indian tribes. But the Italian elucidates this principle more strongly, perhaps, because in its utterance even melody itself. Indeed, so powerful has been the conviction of this with poets and musicians, that, on their stage, while professing "to hold the mirror up to nature," they have actually set to notes the common conversation of their *dramatis personæ*. We hear often of their operas; while Englishmen and Americans forget the harshness of our motley language, and, in the ardor to imitate so fascinating an original, often introduce even our clowns and chambermaids to woo and converse in recitatives and duets. The effect of this, so unnatural and frequently ridiculous, arises almost totally from that last principle in the nature of music which we have attempted to illustrate.

It is regretted, though perhaps much less by the audience than myself, that time will not permit me to enlarge more on this division of our subject. If, therefore, your attention be not already fatigued, we will proceed to dwell a few moments on the influence of music; for influence it must possess, if language does, its great archetype and coeval, but whether on a few or many, whether great or small, beneficially or injuriously, is perhaps questionable and important. Definite ideas on this subject may prove beyond my ability to communicate. But for one instant consider the first point, whether it operates on a few or many. Music having been demonstrated to be such sound as imitates what has before been naturally and involuntarily produced, is known by this imitation to make the mind recall those ideas formerly entertained. Let me inquire, therefore, what being who possesses an ear to listen and an intellect to remember, can avoid influence from these sounds? for the extent of their existence is certainly commensurate with that of the physical and moral universe. Show me, then, a region where language dwells, yea, where but hearing and memory inhabit, and I will show you a province in the empire of music. All species of it, to be sure, do not equally operate on all, as we may hereafter explain; but one kind or another reaches the soul of each,— "some chord is touched within us, and the heart replies." Experience, however, loiters not behind reason in confirming this fact, for the effects of our subject have been blazoned "in historic lore," from creation till now,— from the time angels pæaned its birth, till the present anniversary, which convenes so many disciples of our art within this hallowed temple. Yea, more; the elements themselves have been

often figured as harmonious, and the proverbial "music of the spheres," and the great employment attributed to saint, seraph and seraphim, all illustrate, by fable or fact, the supposed extent of its dominion. The very throne itself of Jove was, among the ancients, surrounded but by the Muses; the pagan god of music was cotemporary with day; and even Scripture assigns the invention of instrumental melody, which must have succeeded vocal, to no later a personage than a near descendant of Cain,—Jubal, "the father of all such as handle the harp and organ." As, then, it commenced with creation, so, says Dryden,—

> "When the last and dreadful hour
> This crumbling pageant shall devour,
> The trumpet shall be heard on high,
> The dead shall live, the living die,
> And music shall untune the sky."

But these observations need not be extended. Our second point as to its influence,—whether great or small,—is much more important; and the analysis we have attempted of music's nature will, perhaps, aid us in elucidating, to a partial extent, this portion of our subject; for if any species of it be employed which imitates sound, uttered under certain emotions that the hearer never felt, or which sound he never previously listened to, or treasured in memory, how can it revive in his mind strong and definite ideas? How can it exercise on him a great and controlling influence? Will the strain of woe melt that monster who in real life never softened at its sorrow or petitions? And,—

> "When young beauty on the realms above
> Bends her bright eyes and trills the tones of love,"

can the miser or misanthrope sympathize, admire and adore? Can the holy anthem inspire with devotion, dissolve with gratitude, or burn with enthusiasm that breast over which atheism has, from the cradle, folded her icy arm? Does the trumpet "clothe with thunder" any neck but that of the war-horse? So, if music imitates an echo, tempest, meandering rill, or stupendous cascade, how can it greatly affect him who never witnessed, or, if witnessed, never remembers their beauty, their grandeur and sublimity? When, therefore, we talk of the quantity of its influence, let us consider its species and the character who listens; for, though all music may be sound to all, yet, if that sound does not excite, by association, the intended or some appropriate ideas, it is, on a general principle, to such hearers, no more music than it is mathematics. Thus might Hotspur well vociferate, "I had rather hear my dog Brach howl in Irish, than the Welsh ditty of the daughter of Glendower;" while Sir Roger de Coverly, at the song of the nightingale, thought only of the widow. It all demonstrates, however, on this portion of our subject, that unless a

proper kind of it be applied to a proper object, its operation must be small; but, if those two circumstances concur, that its influence must be great, and as great, perhaps, as we have concluded it to be universal. This deduction flows, not only from the large impression of all sounds accompanied by ideas and language, but particularly of those accompanied by the most striking ones, arousing the strongest emotions, in fine, of music,—the mere sentiments of which poets invoke a Deity's aid to conceive, and whose appropriate utterance requires "the glowing mind," "filled with fury, rapt, inspired." Even appeals to reason can convince, but eloquent addresses to the judgment, fancy, feelings, persuade and inflame; how much more, then, must the native language itself of even the passions, heightened by sound, embodying and brightening the same images, transport or overwhelm the whole man. Facts, in truth, confirm and sometimes exceed this supposed ascendency of music, vast and even illimitable as it may appear. We care nothing about poetic annals, for poets are not the most accurate historians, that "from harmony, from heavenly harmony, this universal frame began;" that of Timotheus and Cecilia,—"He raised a mortal to the skies, she drew an angel down;" that Orpheus elicited tears even "from Pluto's iron cheeks," and "moved, in choral dance, beasts, rocks and trees;" but what has been its actual and indeed almost incredible power in war, in festivity, in love, and the drama? An inquiry so extensive we must, however, reluctantly abandon to your own investigations; for time compels us to hasten into our last consideration of its influence,—whether beneficial or injurious. And, if the preceding inference has been just, that the effect of music, whether great or small, depends on a proper species of it being skilfully addressed to an appropriate object, surely its effect, whether good or bad, is ascertainable with ease, for, suitably applied, it exercises a great influence, and hence, if so applied to a laudable object, it exercises a good as well as great influence. Regard, then, the character of that employed, and the subject for its operation; and though, from a neglect of this, music is sometimes wretchedly perverted, and even pregnant with considerable evil, yet the forced abuse of anything is no argument against its general utility. In medicine, manners, science and morals, experience demonstrates that its agency has been highly salutary. We concede, in the first, that some have treated as fabulous its cure of certain diseases; yet none can deny to it a stimulating effect on exhausted spirits, and a soothing empire over a deranged mind. But in manners its influence has been less questionable and more uniform. When the species used possesses gayety, mildness, pathos, or plaintiveness, it universally tends to soften and refine society. We then remember the gentle Italian, or accomplished Parisian. But when loud and rapid and irregular, it has in truth, perhaps, checked rather than advanced the suavity of social intercourse. We then see an English justice, surly as a baron of the thirteenth century; or we see his progenitors on the continent, quaff-

ing, in the hall of Odin, from the skulls of their enemy. Very obvious reasons exist for this,—because all the feelings and passions are, by operation of appropriate music, roused, augmented, inflamed; consequently, that species of it which feeds and fans the boisterous or ferocious ones, will cherish similar manners, and its opposite species, the softened, the polished, or voluptuous manners. While, therefore, it shall continue desirable that the sympathies and interviews of community should be chastened, mild and affable, neither the song nor viol ought ever to be mute. And, by parity of reasoning, while war shall remain a necessary evil, those manners and feelings suitable for its encounter, conflict and triumph,—its "pomp, pride and circumstance," —cannot be otherwise than fostered in votaries of it by the fife and drum, the trumpet and warwhoop. Even the refinement or barbarism of whole nations in Greece has, by Plutarch and Polybius, been ascribed to the culture or neglect of this divine science. But its perversion, like that of all Heaven's best gifts, has doubtless injured what otherwise might have been improved; and, through an overweening dread of this, perhaps, the Egyptians discountenanced and Plato banished it from his republic. *Quem tu*, says Horace also, *Melpomene semel nascentur placido lumine videris, non illum labor Isthmius clarabit, non equus impiger.* And generally, where manners have already become too softened, too free, too luxurious, similar music must, I know, add fuel to the flame. The Asiatic voluptuary, I know, is rendered more debauched. The orgies of bacchanals, I know, become doubly furious; and the altars of Comus are thronged thicker with votaries, and heaped higher with victims. But these are only the effect of its abuse. They are the Promethean fire, stolen from heaven to animate clay.

Science is probably less under the *direct* influence of our subject than manners; but there obtains from this art some immediate, and a great circuitous, operation on it through the medium of the last topic, and of morals also, which is unequivocally beneficial; but which I will not exhaust your patience in explaining. Yet students, notwithstanding this, frequently cherish a strong prejudice against the utility of music to their pursuits. And though Chesterfield surely considered fiddling unnecessary to a gentleman; though Alcibiades broke his flute to prevent distortion of his countenance, and Philip thought Alexander might be ashamed to sing so well; yet all these apply to the practice rather than the study of this art. And even the former, after numerous recommendations of it to scholars, with Lord Coke's at their head, may at least be sometimes beneficial, and certainly not always unlucrative, since Goldsmith fluted his way through Europe, and Anacreon Moore sung his through America. But we must abandon this portion of our inquiries. Suffer me, however, to linger one moment on the utility of music to that department of science styled rhetoric. By an audience enlightened and refined, you need not arguments to demonstrate, that an elegant selection and arrango-

ment of words as well as of ideas is expected from an orator. Among the ancients this principle was carried to a vast extent; and long before Quintilian, a Roman assembly required a musical period from a speaker no less rigorously than a measured line from a poet. Indeed, Cicero himself observes: — "*Est enim oratori finitimus poetæ, numeris adstrictior paulo verborum, autem licentia liberior, multis vero ornandi generibus socius*, ac pene par." Hence, perhaps, as much as from its influence on manners and morals, music was considered so cardinal a branch of ancient education. Its good effect on delivery must have also been clearly ascertained and highly estimated; for the delicacies in accent and emphasis are as unattainable by the ignorant in sounds and their combinations, as by the deaf and dumb. Pronunciation is, in truth, everything. Is it not with the Grecian the first, second, and third? The Gracchi, too, we all remember, pitched their voices by a pipe in those inflammatory harangues, which convulsed the thousands of Rome, and carried terror and dismay into the hearts of her patricians. Walker, also, on elocution, confirms this, by inculcating a modulation of the voice almost as systematic and musical as the gamut of a Handel. The importance of rhetoric renders me anxious in any mode to facilitate its improvement; and had I half that portion of it the soul should thirst for, my present subject would be discarded, to convince you, from this desk, that, in a nation like ours, it is the thing alone nearest allied to omnipotence; with barristers, renown,— with statesmen, dominion,— with divines, "the language of inspiration, and the tongue of an angel." But we have not, and therefore close our remarks on the influence of music by glancing at its utility to morals. I speak of them now as more particularly embracing religion. No matter, as to this inquiry, what be the form of worship; no matter, too, what be its object; — whether a vegetable or brute, saint or hero, fiend or beneficent God, receive the soul's homage, still, if the heart unites in devotion, that heart is under the empire of music. By this, all its affections are roused and warmed; it glows with gratitude, melts with love, exults in hope, or soars in ecstasy. Where exists the temple, Pagan, Mohammedan, or Christian, that has not acknowledged this? In fine, so nearly is it the native language itself of piety, that hosannas are thought to be the employment of saints and the delight of angels. And, indeed, I would not hesitate to repeat, so far with Shakspeare, that the professor of religion, —

> "Who has not music in himself,
> Nor is not moved by concord of sweet sounds,
> Is fit for treasons, stratagems, and spoils;
> The motions of his spirit are dull as night,
> And his affections dark as Erebus."

For it operates by the association which language and sounds of praise, prayer and repentance revive in that mind which has before

witnessed in sympathy, or felt by divine agency their irresistible influence. All, then, alive to these, must be alive to music. Shall I not presume to declare, that those societies, which I am now honored in addressing, have also been deeply and solemnly impressed with its benefits to devotion? Our exertions to acquire a knowledge of church music, our labor for its diffusion, our innumerable sacrifices to its improvement, are all monuments of this, imperishable, I trust, as they are honorable. But its improvement still remains an object of general interest; and, lastly, how shall it be promoted? Our observations have, we hope, demonstrated the closer music imitates in sound the natural one imitated, and the stronger that idea revived by the sound resembles the one expressed by the words, — so much the more rapid and deep is its impression; the more fully it achieves the end proposed, and hence, in its kind, is the nearer allied to perfection. For, when totally destitute of these qualities, who ever dreamed of its being melody or harmony? but when possessed of them in a degree, it is ever one or the other; and good or bad, in a ratio with that degree. If, then, we would accelerate the improvement of music, this knowledge of sounds and their associated ideas should be extended; as also a skill in discriminating the former from each other, and an acquaintance with the respective sentiments they all naturally excite. On these points, as information enlarges, the more correct, facile, and strong are musical conceptions; and the more assiduously will each labor within the sphere of his influence to advance the interests of this science. Increase then the number of persons possessing such intelligence; convert the choir and audience into such, and the taste, the performance, and effect of music approach perfection near as humanity can attain to. But while our tunes are composed by people devoid of this extensive and accurate knowledge of sounds and their associated ideas; while also they are sung in language whose meaning does not resemble that naturally excited by the sounds; and while both are introduced on occasions the most unsuitable or disconnected with either, can we expect improvement in music? *One* of these pollutions is alone sufficient to debase the whole glory of our art and "lay its blushing honors in the dust;" but when you combine them *all*, it is only the ignorance of performers and stupidity of hearers that prevents its total banishment from many of our churches. The tunes in fashion actually are often but as portions of Dibdin or Hewitt; and these also frequently performed in words more doleful than those of Funeral Hymn, or old Windham, and equally on a Fast or Thanksgiving. But how shall composers, performers, and auditors be endowed with such enlarged intelligence and accurate discrimination? First, as we previously hinted, by a diffusion of general science, and, secondly, of musical science. Effect these, and then this whole rubbish of incoherent sounds, ill adapted words, fuguing and counter-fuguing is proscribed. For assemblages are as individuals. If either be enlightened, delicate and acute, so generally must correspond

music in order to edify or entertain. Show me such an audience, and I will show you music improved. Show me a different one, and I will often show you music defective, debased, vitiated. But because general and musical science are not yet disseminated throughout community sufficiently to make all relish the pieces of Giardini or Madan, shall we, till they be so disseminated, encourage churches to continue the old corruptions? If the people cannot be immediately informed, so as to render those acceptable, cannot they be rendered acceptable by habit? That is the mode in which the present ones grew popular; and "use," which, says the poet, "can almost change the stamp of nature," has alone made them quite devotional. But it is habitually, not naturally, that religious ideas are associated with them, they having long been employed and listened to on sacred occasions. Thus custom affixes peculiar sentiments, different from the original ones, to certain words, as "ship-money," in England, and "tory," in America. So of national songs, that elicit tears from the Swiss, by recalling his native Alps; of Highland airs to a Scotchman; and our Yankee-doodle to New Englanders. The effect of these, we repeat it, results almost solely from their habitual associations,— "the images of other times," —times when the infant or maturer ear listened to their melody. Mother, sister and playfellow,— the endearments of home, the pastimes of youth, or prowess of manhood,— all rush upon the mind and whelm it in a tide of enchantment. We treat mankind, then, as we find them. "The taste," says Addison, "is not to conform to the art, but the art to the taste." Their taste, then, being sometimes perverted by custom, we will reform it by custom; but not violate it suddenly or totally, lest debarred from fair experiment. The pieces of illustrious composers must be gradually introduced, and habit, united with the diffusion of general and musical science, will, in time, render them doubly operative and doubly devotional. In the cause of one or all of these, many present have trimmed their midnight lamps and wasted away this "unessential." But, my fellow-laborers, despair not. When prejudice rears her Hydra head, and bigotry strikes her Gorgon shield, you may recede for a moment, but never abandon the field. Though your task must be toilsome,— as an insensible change will alone prove acceptable, and a long, an unremitting exertion alone be crowned with success,— yet your triumph is eventually secure. Defeated you will often be, but from defeat will rise with Antean vigor. Proceed then. A new and golden era in the church music of our vicinity will commence, if it has not already dawned. *It has more than dawned;* it is now blazing up to the zenith; and a God of benevolence must continue to smile on the improvement of that science, the practice of which, in hymning His glory, may hereafter employ an assembled universe.

FAMILY CORRESPONDENCE.

THE following extracts from letters written while absent on a tour made in 1833, addressed to different members of his family by Judge Woodbury, are inserted for the purpose of illustrating the practical habits of his active mind. It was, indeed, difficult for him to live and not be useful.

The reader will discover, at a single glance, that the letters were not intended by their distinguished author for the public eye. It is for this reason that they are particularly to be prized. They show the workings of the inward man, and afford an example worthy to be followed by all who love industry and practical usefulness.

Wheeling, Virginia, on the Ohio River, 7th April, 1833.

MY DEAR E.:

Will you just stitch together, as received, my hasty scrawls? — since it may be pleasant, if I am permitted to return, to look over some of them.

* * * * * * *

We meet constantly on the road, or pass them, large covered-wagons, with five or six horses, transporting goods between Baltimore, and especially Frederickton and Wheeling. Most of the wagons have beds for the drivers to open and sleep on at night, while their horses stand round the wagon feeding and resting till morning. We passed a few wagons with emigrants, generally with the middle-aged part of the family walking, and the very young and old riding. Since we entered Pennsylvania, the country is less hilly and better cultivated, — especially to-day, between Uniontown and Wheeling. Ask Charles to read about the Whiskey Insurrection, in Marshall's Life of Washington, — in 1794, I think. We dined to-day in Washington, Washington county, where it broke out, and where Bradford, the leader of it, lived. He fled, in the end, to Louisiana or Texas, and never returned. A bottle of the whiskey then made was presented to me by a friend, last night, and has gone on to Washington city. The place where the disaffected met was at Braddock's Field, about five miles from Pittsburg, in Alleghany county. * * *

My first view of the Ohio State and river was from the hill, as we descended to this village. The land of the former looks well, and somewhat mountainous; the width of the latter is not more than that of the Merrimack at Concord, or the Connecticut at Hanover, — though it is at this season deeper. I was disappointed in its size here; but may find my larger expectations realized, as we descend towards the Mississippi. Coal abounds through this whole country; and that, with more slovenly habits than generally prevail east, and

with stone or hewn timber houses, without paint, — except occasionally one of brick, — give an unpleasant and repulsive appearance to most of the villages and taverns. But the soil and the farms look, at times, very rich and beautiful, — much like the towns near Connecticut river; though the hills are steep and numerous, as in Vermont, and very few stones on the surface, except ledges over coal-mines. You miss stone walls almost entirely, and orchards very often. * * * * * *

On Ohio River — near Portsmouth, at the mouth of the Scioto River, 10th April, 1838.

My Dear M. E.:

I address this to you as my eldest daughter, and, it is hoped, among the best, after a little more experience and education.

I wish this letter to be stitched up with those to your mother, as I shall continue in it the account of my journey.

The banks of the Ohio are to day purple with peach-blossoms, and many wild-flowers throw their fragrance around us; I enclose some to you. We have just passed Guyandot village and river, on the Virginia side, whence runs a large road and mail-route to Washington city, through the Alleghany Mountains. Please to trace it on a map of Virginia. * * *

Cincinnati, Ohio, 11th April, 1838.

My Dear Son:

As we are now at the greatest maritime city of Ohio, I address this letter to you, wishing it to go on the files, with your mother's.

I am listening, as I write, to the piano and song, from a chamber adjoining mine; and you may judge somewhat of the pretensions of this place to fashion, when I inform you I strolled to-day by one manufactory of pianos and two theatres. They have numerous churches, and all the variety and abundance of stores and goods seen in Providence, Salem, Portland, &c. They are not quite equal to New York and Philadelphia, though fond of having a resemblance discovered; and really have a dozen or more paved streets, excellent sidewalks, several large hotels, some very pretty blocks of buildings, and a few agreeable houses. The population is said to exceed thirty thousand.

* * * * * * *

About twenty steamboats are lying at the wharf here, which consists of the long sloping bank of the river, paved with stone; and the boats at all times float up against it, and fasten to rings secured in the stone, at different heights of the water. The boats usually draw only four to six feet of water; and there being no tide, they do not thump much on the rocks.

They load up from New Orleans with groceries and crockery-ware chiefly, and load down with flour, bacon, and whiskey. The city runs on the bank a mile or more sparsely, and extends back almost a mile to the bluffs, where it is inclined to become compact. The Dayton Canal runs almost through it, from west to east, in about the centre. * * * *

Ohio River, between Cincinnati and Louisville, 13th April, 1833.

My Dear F. A.:

* * * * * * *

Many of the small towns are new in their signs: one is the Cincinnati Light House; another, Fort Washington Hotel; one, the Caledonian Coffee House; another, the Cambrian Inn; and another, the World's End.

One steamboat has put into the wharf, to-day, called "The Compromise;" and we passed the "Black Hawk" three days ago. * * *

Ohio River, near the mouth of Salt River, April 14th, 1833.

My Dear E.:

The Kentuckians say, if you do not mind your behavior, "I will row you up Salt river." The meaning of the remark lies in the fact that the water is very rapid, and difficult to row against, near the mouth of Salt river; and hence, I will put you in trouble or danger, if I row you up. * * *

A species of stone is dug from the bottom of the canal, which is ground in a steam saw-mill near, and sent to New Orleans, as it makes an excellent mortar or cement to use under water. English goods, and some West India, are sold here to a large number of retailers living in Tennessee, and carried back two or three hundred miles, — particularly the latter, because the former often come across the Alleghanies. * * * *

Louisville, Kentucky, 14th April, 1833.

My Dear V.:

I shall begin this letter at this place, being on the beautiful falls of the *belle rivière*, as the French called the Ohio. It is one hundred and fifty miles below Cincinnati. You can find it on the map, and see that Portland is just below it, at the foot of the canal around the falls.

The river from Cincinnati is not much wider than the Merrimack at Newburyport; and the land on the banks, on both sides, most of the distance, seems covered with forests. Occasionally you will see a small log house, and sometimes a little cluster of such, with one or two brick and framed buildings. Wood is frequently cut and piled up on the banks, and in flat-boats on the shore, to supply the numerous steam-vessels which pass, and which give for it a dollar and a quarter per cord. * * * * *

The approach to Louisville is more beautiful than that to Cincinnati. The river is wider, and the banks lower, and the rise back more gradual. Jeffersonville, opposite in the State of Indiana, is a mere village, to which you cross by a steamboat ferry, and can look down the gentle slope of the river constituting the falls about one-fourth of a mile. The stream then curves out of sight, and becomes more narrow and rapid as you reach the foot of the falls. At high water the falls are passed over by the boats; but at low water they go through the canal on the south side, and pay a toll of forty cents for each ton the vessel measures, making about one hundred and forty dollars for the Hibernia, in which we are. This high toll does not yet make the canal-stock profitable, the expense of building it was so great. The city of Louisville is almost half the size of Cincinnati, being ten or twelve thousand in population. The chief streets are east and west, parallel to the river; and are well paved, wide, and ornamented, like Cincinnati, with a number of

dwelling-houses, with quite a seaport appearance. The country south is rich in soil, and land in the environs of the city sells at five dollars per foot for building-lots. Many fortunes have been made here, within a few years, by the mere rise in value of these lots; and people talk here of fifty and one hundred *thousand* dollars made and lost, as we at the east would of only fifty or one hundred dollars. Some here think this will in time be the largest city west of the Alleghanies, except New Orleans,—others say St. Louis will be the largest. An Ohio politician said yesterday that Cleveland, on Lake Erie, would be the largest, except Cincinnati; and a citizen of the latter city insisted that their population must very soon reach one hundred thousand.

Here they rather envy Cincinnati, and boast of having driven the Yankees away chiefly from the south side of the Ohio river. * * *

Louisville, Ky., 14th April, 1833.

MY DEAR DAUGHTER E.:

* * * * * * *

They have one city school, supported by a city tax, where five or six hundred children are taught; and that is all that can be considered free education.

They have another public institution, called a Marine Hospital, built by the State of Kentucky, and supported by a tax on auctions, &c., except about five hundred dollars paid annually by the General Government out of the Marine Hospital fund.

The signs here furnish to me some amusement. There is "The Jefferson Tavern," the "Louisiana Hotel," the "Marine Coffee House," the "Commercial Inn;" and in Indiana State, at the town of New Albany, which I visited to-day, was a sign, "*Our Grocery.*" A steamboat alongside of us is the "Samson," another is the "Proclamation," and another "Uncle Sam." * * I have visited the locks and canal around the falls, and crossed the river to Indiana. The whole fall is twenty-one feet at low water. Much of the canal is cut out of almost solid rock. The back water makes mud in it below, and the high water from above endangers the locks. It cost about eight hundred thousand dollars. The hackmen, draymen, &c., are opposed to it; have blown up part of it by gunpowder, and injured other portions, as it diminishes their business. There are sixty hacks in this city. The merchants here deal more largely by wholesale than those at Cincinnati, except in pork and whiskey. They supply chiefly Indiana, as well as the places higher up the Ohio, with goods. The city has become healthy since 1822, by being drained more cleanly, though it suffered before that by most malignant bilious fevers. I crossed the river in a steam ferry-boat, and a horse ferry-boat plies in the same place.

They make up in Kentucky some Manilla grass into cordage, as well as their own hemp. Tell Charles I have seen but few good horses here, though they talk largely of their horses south of this place. Some taverns are also lined inside with all kinds of advertisements, printed and framed, and sometimes much ornamented. This place is called after Louis XVI., as it was first settled about the time of his alliance with America. It did not grow much till 1794, after Wayne's Indian treaty; and not rapidly till, since 1816, the introduction of many steamboats, and 1822, the improved health of the place. * * The markets here are large and well supplied, especially with fish taken on the falls, among which are said to be the salmon and the pike. * * * * * *

Near Rome in Indiana, 15th April, 1833.

My Dear E.:

* * * * * * *

We have a clear sky, apple-blossoms on the bank, and a log hut to lounge in while the boat is receiving a new supply of fuel. One of the floors of the log house is covered with a carpet, and brass andirons glisten in the chimney-corner.

We expect to pass *Troy* in a few hours. What a medley of names! "The Polander" lay near us at the wharf yesterday, and we passed in the streets of Louisville the "Rob Roy" store, and the "Red Rover" tavern. * * Besides steamboats, there are flat-boats and arks, which carry produce of all kinds down these rivers, and are then sold. They have no sails nor steam, and never go against the stream up the rivers. Then come next the keel-boats, which are formed in their bottom like a small schooner, with a raised roof on deck in the centre, almost the whole length, sometimes with one mast and a sail, and with small cleets or steps each side, the whole length, where the boatmen walk, and push the boat against the stream with their long poles; — no oar is used, except by the helmsman. They are sometimes towed up by the steamboats, but it is an unpopular innovation. Mrs. Benham's grandmother is now ninety-four years old, and stopped in Baltimore; and, in the morning, as she looked out of Barnum's, when about to start for Ohio, said she thought Baltimore had altered considerably since she was there before. "How long since was that, madam?" She replied, "Sixty-four years, sir." I think this country will also alter considerably before I ever wish to visit it again. The pretensions of everybody and everything are natural enough, but exceedingly disgusting, at times. * * * * * *

Below Shawneetown, April 15th, 1833.

My Dear E.:

We have been hauled up against the bank, on the Illinois side, this hour, mending some defect in the engine. We have all strolled ashore, and I send you some of the wild-flowers plucked in this new State. I have just written a letter to your father, and enclosed some to Frances. A sprig of mistletoe is placed among the flowers. * * I have just been called away to look at the town of Golconda, whose precious stones, it is said, consist of rocks suitable to resist fire in furnaces. It has eight or ten houses and a court-house.

Shawneetown, ten miles below the Wabash, 16th April, 1833.

My Dear E.:

We have got into the Green river country, in Kentucky, and have had a fine temperature in the weather to-day. The top of our boat is covered with coops for hens and pigs, ducks and geese, — part for the use of the boat, and part for the New Orleans market. They are all full, and look like Noah's ark with the horses below.

To entertain us and raise our spirits to-day, the captain pointed out the place where the boat, in 1826, which had Lafayette on board, run upon a snag and sunk, the old gentleman barely escaping with life, and losing most of his baggage. We heard yesterday of the loss of another boat, called the Reaper, in a similar way, and some hundreds of miles south of us. Ten or fifteen lives were lost; but most of those in the cabin were saved, as the cabin floated off, and did not sink. * * * *

We just left at Evansville, in Indiana, a Dutch emigrant and family from Pennsylvania, and none of the party seemed so happy to get on shore as his faithful dog. * * * *

Mississippi River, 17th April, 1833.

My Dear E.:

* * * * * * *

We have been some hours on the bosom of the mighty father, or king, of rivers. Yet the width of the river is not apparently greater than the Ohio the last two or three hundred miles. It has, also, lower banks and larger sand-bars, and, consequently, looks less interesting and romantic than the Ohio. You see the mistletoe covering many limbs of even dead trees, on the banks. The Cumberland river, which we passed yesterday afternoon at Smithland, where it flows into the Ohio, seemed half as wide as the Ohio; and the Tennessee, twelve miles below, at a new town called Paduca, seemed to pour in still more water than the Cumberland. Let Mary E. see, on the map, if this last river does not rise even in Virginia, run into Alabama, as well as the State of Tennessee, and empty in Kentucky. * * * *

Wood increases in value as we approach New Orleans. It is now about two dollars, and was only one dollar and a half above Louisville. It gets to be about three dollars at New Orleans. Most of that used is ash.

The men born in this western world, whom we see on the rivers, are seldom fat, and are generally tall and a little bent forward.

The shores are so steep, though low, that we can fasten to the trunk or stump of a cypress or cotton-wood tree, whenever we wish to stop.

You see people at tables here fall into an establishment of ranks with great ease. The deck passengers do not eat at all or mingle with the cabin passengers. Of the latter, the ladies and husbands, and *men of consequence*, sit nearest the captain, at the first table, and the rest below. At the second table come the pilots, and enginemen, and boatmen, and barkeeper. Next come the waiters, male and female, colored, at a third table. * * *

Near Memphis, April 18th, 1833.

My Dear Charles:

This is the place where Col. Crockett moved to have the Great National Road terminate; and declared, if the motion did not prevail, he would not vote for the road. He lives about forty miles from this, and lives much by hunting bear and deer, among the forest and cane-brake. The latter grows from ten to twenty feet high, and at this season is verdant and beautiful, and constitutes the chief food of their cattle the year round. At a little "Grocery and Bakery," where we stopped yesterday, they had in the log-house five dogs, beside two paintings, three or four engravings, and a number of books. But in the grocery were only a keg of whiskey, some tobacco, and dried beef, and venison, and sausages. They asked twenty-five cents a quart for milk. They had been educated at New Madrid, about thirty miles above, in Missouri, and left there after the earthquake in 1811, or thereabouts, sunk most of the village. The Mississippi river now flows directly over where the houses stood. It was in old times a Spanish garrison, and hence had more books, pictures, &c., than other places near. One man on board has a large collec-

tion of game-cocks, he is taking to New Orleans, and which he expects to sell from five to twenty dollars each. Another has a great number of common fowls for market at New Orleans. Yesterday they selected a rooster from each, and after a long battle on deck, the common dunghill-cock rather worsted the game-cock. They then betted high; sawed off their spurs, put on gaffs, &c., and very soon both were run through the neck; but the game-cock was first able to stand again, and therefore won. * * *

We were shown a cut in the river, yesterday, where nearly fifteen miles have been saved, by digging across one mile. Such changes are often made, the bed of the river is so crooked, and the banks so low. * * There has been another cock-fight to-day, and the game-cock has again beat. Most of the Kentuckians and Tennesseans are again gaming, with their coats off, at brag, euchre, &c. A Kentucky lawyer, Mr. R., it is said, disgraced himself much, in the last trip, by counting all his "pickoons" at six and a quarter cents, instead of six. I have found no difficulty in getting along without either playing or betting. It is better for both your morals and intellect to spend little or no time at any kind of games. * * * *

Below Memphis, on Mississippi River, April 18th, 1838.

My Dear M. E.:

The forests on the banks of the river are getting to be quite green with foliage. A good deal of discussion takes place on board as to the quality of land; and the whole of the talking portion of the passengers are united in abusing Texas. One calls it the refuge of rogues and bankrupts; another says the soil is so hard, when dry, as to break a "horse-shoe;" another says the mouths of the rivers are all blocked up with sand-bars; and thus they combine, to prejudice a man on board, who is destined thither. He has a rifle with seven barrels at the but; and a Kentuckian has already offered him a horse for it, without effect. Most of the cultivation, the last fifty miles on the Arkansas side, is on land of the United States, which has not yet been surveyed or sold. * * * * *

The whole river of the Mississippi, so far as I have seen it, by means of its low banks and numerous islands, looks to me like a long lake. I think this whole country was once a lake, or wide bay; that the bluffs and swells were the earliest islands. And as the body of the water drained off becomes less by cultivation of the soil on all its tributary streams, the river will become more straight, more confined within its banks, and the land contiguous better in quality, and more suitable for agricultural purposes. The current makes so many short turns, you can seldom see over three or four miles. Our boat, being on the high-pressure system, moves through the water with great speed, but with no ordinary noise. Every time it starts, and almost every half-minute after, it issues groans like the lion or elephant, when irritated or vexed. Then, occasionally, the steam starts out of the funnel like a flash of lightning, and makes a hissing noise, that almost frightens one to leap overboard for safety. We spent a half-hour at Memphis pleasantly; a number of new brick houses and stores are building; two newspapers are published in the village, and the men who called on board seemed intelligent, and full of political electioneering, for both the State Legislature and Congress. Mr. Crockett's life is said to be genuine, and written by a Mr. French, from Virginia, — a young lawyer, —

at Crockett's special request. His daughters are said to go barefoot the whole year, though grown up, and somewhat pretty. * * *

I heard a dreadful story to-day, to show the bad effects of gambling. Mr. Prior, of Tennessee, stopped, a few nights ago, in Nashville, on his way to Pensacola, and was tempted to gamble with two young men, — one Hoover and one Hill. They won all Hill's money; and after they were asleep, Hill rose, and beat out Prior's brains with a stick of wood, and robbed him, and supposed he had beat out Hoover's; but Hoover has since got better, and given information, and Hill has been arrested, and committed to prison. I would not learn to play cards any more, if I were you, and advise Charles to avoid them. * * * * *

Below the mouth of the Arkansas River, April 19th, 1833.

My Dear F. A.:

* * * * * * *

At Memphis, last season, a traveller in the steamboat asked some of the inhabitants what they were going to do with Crockett, as he had lost his election to Congress. The reply was, "Ship him off as governor to Arkansas, or some such situation." The traveller became silent; and, on inquiry, he proved to be Gov. Pope, of Arkansas.

Near Vicksburg, April 20th, 1833.

My Dear V.:

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This region of country looks more fertile, is milder in temperature, and nearer a market, than the north-western States, but is supposed to be less healthy. I doubt if this supposition be well founded, provided proper care is taken. Almost the whole population here wear woollen flannel next the skin; and many look ruddy and are long-lived, in Louisiana and Mississippi. * * We passed one little cabin, an hour ago, and saw a male and female sitting with folded arms at the door, with no children about, almost imbedded from sight by the limbs and leaves hanging over them, on a very picturesque island. As neither cattle, nor hogs, nor even dogs, were visible, they looked very poetic; and may have been some stray lovers, who had found "a dear little isle of their own." * * *

Below Natchez, April 21st, 1833.

My Dear E.:

We are floating on rapidly towards New Orleans. You will see and hear much, perhaps, of the danger of the cholera in this region. But, with due care, which I shall exercise, I do not consider the danger very great, and, pursuing my duty, must leave the result to Providence. * * *

Most of the cultivation here, on both sides of the river, is cotton; though sugar is attempted by some, but is deemed no better crop, in the long run, than cotton at the present prices. Smaller negroes can work to better advantage at cotton, and the growth is surer. Two thousand pounds of rough unginned cotton, and the same quantity of sugar, are large crops to the acre; the former is reduced three-quarters by ginning and cleaning, which averages about a bale, or a little more, to an acre, or about forty dollars. The Spanish moss, as it is called, used much for mattresses, &c., covers many of the forest trees here, in festoons, and is gathered, cured, and sold. The soil is seldom manured, except by cotton-seeds in places very barren.

At every little village we find from ten to twenty flat-bottomed boats, which, beside corn in the ear, pork, bacon, flour, whiskey, cattle, and fowls, have a great assortment of notions from Cincinnati and elsewhere; among these are corn-brooms, cabinet furniture, cider, apples, ploughs, cordage, &c. &c. They remain at one place till all is sold out, if the demand be brisk; if not, they move further down.

After all is sold out, they dispose of their boat, and return with their crew by the steamers to their homes. These persons, slaves, Dutch emigrants, and occasionally American ones, constitute the deck passengers, and are the most numerous victims of disease. This river, although overflowing its banks sometimes one or two months in a year, and then extending twenty or thirty miles wide, is five-tenths of the year confined to well-marked banks, now from three to five feet above the water in most places. The width for one or two hundred miles below Memphis exceeds a mile; but above that, and below Arkansas river, is always about three-quarters of a mile. We found Natchez consisting of what is called the upper and lower town, — the former not visible from the water, except a few houses on the margin of the bluff, and the spires of one or two churches. We climbed up the hill to it, but, being Sunday, we did not leave our letters of introduction. We found the streets narrow, but straight, with some pretty but few dashy buildings; Pride of India trees are numerous. The water drank is from rain caught and kept in cisterns sunk in the ground, and looks and tastes very well; we found soda, but no ice. The lower town is under the hill, directly on the edge of the river, and as much worse for filth, dissipation and noise, than most sailor streets in Boston, Portland, &c., as they are worse than the best streets. All the shops, stores and taverns, are open, and overflowing with male and female of all colors. * * A great speculation here is to press oil from cotton-seeds, and to have the residuum eaten by cattle, swine, and horses. It promises an immense fortune to a Mr. Miller, concerned in it, and the patent was brought out from Virginia. Formerly, these seeds were generally flung away. * * *

Near Natchez, April 21st, 1833.

My Dear E.

* * * * * * *

We found the approach to Vicksburg very new in appearance, the Walnut Hills, for a mile or two above, being gentle rises of two or three hundred feet. At the lower end of them is situated the town, the streets of it being steeper than those of Georgetown, and full of business. Ice is advertised at the corners for sale; and the rose in our garden was in full blossom. The horses and swine look better here than up the river. * * *

We find some political hand-bills posted up, and a great desire in them all to avoid the imputation of being nullifiers. This fact I wish you to communicate to the president. * * We passed on, and found a tavern, called the "Exchange," in another street, in one room of which was a public billiard-table. The licensed tax for it was said to be five hundred dollars per year. They *license* almost everything here and in Louisiana for money. This spirit of gambling, and that of speculation, in these regions, seem constantly acting on each other. One person calculates to make a fortune in three or four years, by buying and selling negroes; another, by raising cotton or sugar;

another, by a rise in land for cultivation; another, by disposing of building-lots in a growing village, or city; another, by a steamboat on a new route; another, by a new canal, or railroad; another, by purchasing a gold-mine; another, by a new bank, or insurance company; another, by taking up vacant lands in Texas; and another, by colonization at the mouth of the Columbia river, beyond the Rocky Mountains. Again, another man is becoming a nabob by rearing blood horses, that one by betting on them; this one by breeding game-cocks, that one by fighting them; this man by inventing a patent, and that one by introducing the use here of one long known; and thousands of imitators hurry into their train, with expectations of like results. In short, a little madness, — a species of mania, — in different degrees and on a scale of different magnitude, seems to infest almost every person, for making money in some way more quick than the old-fashioned mode of honest industry, and of slow but sure gains resulting from it. * * *

Below Natchez, April 22nd, 1833.

My Dear E.:

* * * * * * *

The conversation on board partakes, as we go down, much of duels — bloody, ferocious, from trifling causes, and generally ending in death. A dispute at some springs, in a pine barren, as to which ladies should sit highest at the dining-table, — caused two duels and two deaths. Our duellist on board, and his friends, make no secret of their journey to New Orleans; and last night I heard them coolly discussing the best mode of taking aim, the effect of a ball on the muscles so as to prevent a return fire, and all that. Another topic is the unbounded income and hospitality of the cotton-planters, — their weekly dining-parties, their sherry and champagne, their carriages and horses for display, &c. &c. It is a constant fashion, since quitting the mouth of the Ohio, for the passengers to invite each other to go to the bar and take bitters, or sling, or brandy, &c. &c. * * * *

At Louisville we were told the origin of the phrase "going the whole hog." In the market at that place, a planter, with a hog dressed on a bench for sale, stepped aside; and when he returned, found the hog divided, and half of it gone. He went to the clerk of the market, and complained that some damned Jackson man had stolen half of his hog. The clerk said it could not have been a Jackson man who took it, as he would have gone the whole hog. Another version of the "whole hog" expression is, that parts of the hog are offered at a higher and part at a lower price; but if you will take the "*whole hog*," a different price still is fixed. * * One passenger on board has contended that the people of the west and south-west are more eloquent than those at the north, from their different system of electioneering in person and by stump speeches. Even the boxers, he says, swear and abuse each other more fluently. I have noticed, in a number of passengers, more variety of tones and clearness of expression. Their words are not huddled so fast and close together as at the north.

We have just bid adieu to Natchez precisely at ten A. M. There is a light-house on the bluff visible some miles below; but it is rather remarkable for show than its usefulness. The bluff gradually subsides till you find a flat country most of the three hundred miles hence to New Orleans; though Ellis' bluffs, fifteen miles below Natchez, are very picturesque. * * *

Near Baton Rouge, April 22nd, 1888.

My Dear Son:

It is now about four P. M., and we are again under high steam, and approaching New Orleans, at the rate of over ten miles an hour. The trees on the banks seem generally to out-top our highest elms at the east, and the full-grown cotton-wood tree resembles much in form the elm. We have just seen a crocodile very awkwardly sporting in the river, near the eastern shore. The small log huts under such lofty trees, reaching only to their first limbs, and the myriads of vines creeping up their trunks, with trees and vines now in full foliage, make a very romantic and Asiatic appearance. * *

A pedler on board has just addressed me as a friend of the present administration. He is a whole-hog Jackson Irishman, and who buys his goods in Philadelphia or New York, takes passage to New Orleans, and then trades all along up and down the Mississippi and its tributaries, till he wants a new stock. He says he deals in everything, foreign and domestic, and finds his business profitable. * * *

The old planter, Milliken, mentioned in my last letter, weighs two hundred and eighty pounds, and carries a cane at least five feet long. He says Gen. Jackson sends about one hundred bales of cotton to the market yearly, and gets about a cent a pound more than others. Half of one bale is carried off from the commission-merchant in small quantities as mementoes of Gen. J's. cotton. Why should not some Yankee buy up the whole, and sell the cloth and yarn at a handsome advance, in small quantities, as made from cotton growing at the Hermitage?

We expect to reach New Orleans to-night, and the plantations and villages look better as we approach. We have already passed one or two places where the Mississippi river sends off a branch to the sea; and the levee has been uninterrupted, I believe, from St. Francisville, some miles above Baton Rouge. It is merely a little mound, from two to four feet high, on the top of the bank, looking like the earth flung out of a ditch. In some places it may be wider, and in many places the grass has grown over it. I am told that, in reality, the levee is usually twelve feet wide at its bottom, from four to five feet high, and six feet wide at the top. We begin here to see the sugar-plantations, each of which seems to have a large brick building, where the cane is ground, boiled, &c., by steam machinery.

The live-oak begins to appear in scattered trees on the banks, and looks much like our lowest and widest-limbed elms. The sheep are now seen occasionally, and the mutton in Louisiana is said to be excellent, but the wool is not so good. We just passed one small convent, rather pretty in appearance. The machinery in the sugar-houses used to be moved by horses and mules. The Spanish moss seems largest and longest on the live-oak tree. The roads are usually on the inside of the levee, towards the fields; and you see men's heads and shoulders, as they ride along horse-back. The bayous or outlets of the river towards the lakes, at some distance, and the ocean, are not very deep, — say eight or ten feet only at their commencement, — and run very rapidly. They aid much in preventing a greater height in the river near New Orleans. The Red river, it was supposed, when coming near the Mississippi, turned and run almost parallel to the sea, without emptying at all into the Mississippi. The present cut-off at its mouth has a tendency to give its course the old direction, and will, if successful, relieve much the country below

on the Mississippi from inundation. The sugar-plantations appear to be rich soil, and flat, like the intervals on Connecticut river; and sell, on an average, at one hundred dollars per acre. The buildings are often pretty, but not so neat and trim, in all respects, as the gentlemen's houses and yards over New England.

* * * * * * *

Near New Orleans, April 23d, 1833.

My Dear M. E.:

The sugar plantations named in my last, to Charles, are sometimes in fields of four or five hundred acres, planted entirely with cane, now about half a foot high. They are ploughing among it with horses and mules, one with one negro to each plough; others are hoeing, — men, women, and children, male and female, — in some fields scattered, and in others close together; and fifty to one hundred in one field, occasionally. The negro quarters are sometimes in rows, and painted or whitewashed, and quite neat; and Whitehall, a residence once of Gen. Wade Hampton, has a piazza all around the house, with pillars extending to the second story; and long avenues of trees extend from the river to other planters' houses, and around some you see small groves of orange-trees.

We meet many vessels with sails to-day, one class of which, of eight or ten tons' burthen, has a small raised cabin, and trades up and down the river, and on the coast, with almost everything. Usually a Spaniard, the owner, is on board, and two male and one or two female slaves. It is called a "chicken stealer," probably from the bad habits of the owner; and those on board live there the year round, like the Chinese. When there is no wind, and they wish to go against the current, a long rope is flung ashore and the slaves tow it up. We just passed a large schooner, which is probably here for sugar or molasses, and her whole hull and all seems floating above the height of the surrounding country. * * *

The live-oak forms the densest and largest shade of any tree in the country, and being an evergreen, with a very dark leaf, and cabbage-formed head, resembles the horse-chestnut, as well as the English elm. But it is often much broader than either of them.

The captain of the boat insists upon not taking a cent for my passage, and your mother must think of some appropriate present for his wife, who lives at Louisville, and to whom it could be sent easily, next autumn or winter; — the usual price of a passage is twenty-five dollars. * * Adieu, my dear girl; I am in the land of the orange and lemon and myrtle; but my heart is far awa', in less sunny climes. * * * * *

Steamboat Long Branch, Lake Pontchartrain, April 25th, 1833.

My Dear V.:

The people in the streets and at the market in New Orleans talk French almost universally. Indeed, the French population yet predominates, though weakened in influence. The market consists of two long buildings, and a large open space between all on the levee. The great mass of persons who throng it are more or less colored, and among them is a considerable number of Indians, buying and eating what amuses them. The fruits of all kinds are various and plentiful, such as oranges, apples, &c. &c. I ate green peas

yesterday, and we had string-beans on the table. They have the former here every month in the year. The fish-market is called good, — they have the carp larger than the shad, the catfish, the rock, eels, sprats or shrimps, &c. &c. The last I tried this morning, and they are much like the soft crab. They had oysters on Lake Pontchartrain to-day, very large. * * *

To-day we took the cars, drawn by a steam-engine at the rate of about thirty miles an hour, from New Orleans to Lake Pontchartrain. A number of friends accompanied us, and rode back after taking leave at the lake. The descent is fifteen feet in four miles, from the waters of the Mississippi to those of the lake; and these last are about on the level of the sea, and are blackish at times with salt water. There is a pretty village, wharves, &c., growing up at the end of the rail-road, and a wooden breakwater is commenced. There is a collector and a light-house a few miles west. The water is shoal, not exceeding eight feet in depth in any part of the lake. The passage out which we came through goes by Fort Pike, and then into the northern parts of Lake Borgne and the ocean, we keeping inside of some islands. The other passage out is through Chef Menteur, on which is Fort Wood, and leads into the heart of Lake B., whence the British advanced upon New Orleans, having come there in their boats, and left their ships at Ship Island, thirty to forty miles eastward. There is now another fort on their passage from Lake B. towards New Orleans and the Mississippi; other and new forts are made and making on other portions of this coast, with a view to future defence.

These are not very interesting descriptions to a young lady like you; but Charles must read them with care, and have a map of Louisiana before him. * * *

Near Mobile, Atlantic Ocean, April 25th, 1833.

My Dear E.:

It is now evening, out of sight of land on the one side, and the Bay of St. Louis on the other, tossed upon the waves of the ocean. Our steamboat, the Long Branch, is rather an old, crazy concern, having run between New London and New York as long ago as the first journeys by your mother and myself to Washington. We have, however, delightful weather, and hope to escape accidents.

We just begin to see the real sailor again,— the broad shoulder, and rather short figure, instead of the great bone, and tall, gaunt form, of the Ohio and Mississippi boatmen, — the tarpaulin hat and gingham shirt, instead of the wool hat and calico or baize shirt of the West,— and the rolling gait, instead of the long step. * * * *

The settlements in Louisiana are much confined to the banks of the rivers; but much less so in the States of Mississippi and Alabama. It is a very pleasant fashion for the rich planters to spend the spring and summer on their farms, and the autumn at some springs or on some visit, and the winter in some town or city. Much of Louisiana, except on the banks of their rivers, seems now a swamp; in one of which, to-day, I saw beautiful white lilies, and the Palmetto shrub of novel figure, almost in shape of an open fan. In the lower parts of the Mississippi river, they often say, when speaking of the banks, this *coast* is delightful, or along this *coast*, &c., though the sea-coast is over one hundred miles distant, and they mean the shore of the river only.

The levee at New Orleans not only presents first a dense mass of flat-boats, of many hundreds, and, next numerous, steamboats, but, still lower down, a forest of masts of sea-going vessels, from all quarters of the world. They seem raised so as to overlook the city, and unload with great ease down the slope of the levee, which is covered with all kinds of merchandise and produce, and people of all tongues and colors. The fragrance arising from it, as well as from many of the flat, dirty streets, is anything but pleasant or healthy. The city, however, can one-fourth of the year be purified with running water at a very small expense, by openings in the levee; and the other three-fourths it could be lifted over by an Egyptian wheel, or a forcing pump, so as to make New Orleans as clean and healthy as Philadelphia. Its level site, and long, straight streets, make it resemble much this last city; and the Mississippi river for thirty miles above New Orleans looks more like the Delaware than any other river of my acquaintance. The buildings are more frequent, and the water some wider, but still there is a general and strong resemblance. The best excuse I have ever found for smoking cigars is in the damp air and disagreeable effluvia in many public parts of New Orleans, and the annoyance of gnats and mosquitos, who dislike tobacco-smoke.

Much of the lumber used at New Orleans comes from the borders of Lake Pontchartrain, and the rivers emptying into it. It is mostly cypress, and is sawed usually by steam, — sometimes in and sometimes out of the city. Steam-presses, where the cotton-bags are opened, and the cotton pressed into a smaller compass, are common in the city.

Cedar Bluffs, in Holmes' Valley and near Holmes' Creek, and about fifty miles from the mouth of Choctawatchie River, May 1st, 1833.

My Dear E.:

I am in a little pine log-cabin, about twenty feet square, with one room; a man and his wife, and three children, one colored servant-girl, two stage-drivers, and Col. Henderson. The supper is cooking, and two beds are visible, and all seems going on smoothly. Pine-trees from fifty to eighty feet high are close by, and four other log-houses are within a half-mile; and this is the county-town with a log court-house, for the County of Washington and Territory of Florida! This is the *principal* tavern in the place!

* * * * * * *

We saw a new plough here, with a simple point, like a small shovel. Two or three tons of screwed hay were landed here, this morning. It came from New York, or the east, and is worth here about thirty dollars per ton. Could they raise it on their lands here, it would be better than their cotton crop. They have no dry fodder here but grain, except what they import, and the blade and stalks of corn. These last are almost wholly used for horses, as they dare not let them run at large much to graze on the grass or cane-brake, like the cattle, lest they wander too far. * * * * *

Nullification seems to increase in Florida and Georgia, but does not take root at all in Louisiana, and but little in Alabama, except one large district, represented by Lewis; it is rather aimed now at the Force Bill, as applied to acts done by individuals under the authority of a State convention. * * * * *

Mont Vernon, May 4th, 1838.

My Dear Charles:

* * * * * * *

I am sorry to see, that since we passed through Cumberland, near the head-waters of the Potomac, most of it has been consumed by fire. We have passed sundry fires in the woods, rather fierce, and sometimes dangerous. They are set by design sometimes, to consume the old leaves, grass, &c. &c., so as to increase the herbage for cattle to feed on; and sometimes they happen by accident from the hunters or boatmen going ashore, and from their cooking, or being kindled to keep off mosquitos from men and cattle; but I do not believe they injure the live-oak so much as represented, and, indeed, so much as severe gales of wind; because the fires cannot generally spread greatly, except in the pine-barrens. * * *

They plant the Bermuda grass on the sand and mud at the sides of the fort, as it spreads much, and will grow in the poorest soils. We see the dog-wood in blossom, and a species of wild cassia, having some of the qualities of the sensitive plant. But pine-barrens are said to constitute over two-thirds of the land in Florida, and about one-seventh is swamp and marsh. Some upland or red rice is raised near Pensacola. The sea-island cotton grows in some places on the coast, and in the neighborhood of Tallahassee; and, when in perfection, brings nearly double the price of other cotton.

The only mode of manuring the soil here is by penning the cattle in the fields at night, and then the hogs. The sweet potato grows well here, even in the pine-barrens. * * * *

Georgia very foolishly puts all her new lands into a lottery, and gives a ticket to every citizen who will pay twenty-five cents for entering his name, &c. Some of the lands are said to abound in gold, and great fortunes are made in drawing such lots. It would be much better, if the State sold the lands and created a fund for public purposes, which would, in a short time, relieve her people from every species of taxation. * * * *

The mocking-bird serenades me every hour with a vast variety of notes, and has a very light, slow, and delicate movement when flying, often as if aiming at peculiar gentility. * * * We have here seen Washington papers ten days later than before, and I discover that the Intelligencer has found something to abuse in my southern tour; as if anybody, except from a strong sense of public duty, would, *at his own expense* of two or three hundred dollars, expose his comfort, health and life, in the swamps of Florida, amid the miasma of lakes and filth around New Orleans, and among the snags and sawyers of the Mississippi! It vexes me a little, but I must bear it. * * *

Augusta River, steamboat "John David Morgan," May 11th, 1838.

My Dear E.:

* * * * * * *

The appearance of the Savannah river is much like that of the Merrimack at Concord. It is now high, within three or four feet of the top of its banks, and yet the steamboat often slacks her pace to avoid running on sand-bars. Its course is winding as that of the Mississippi, being two hundred and fifty miles by water from Augusta to Savannah, when the distance by land is only one hundred and twenty. * * This river is the Mississippi in miniature, as to low banks and overflowed swamps, as well as numerous bends. * * *

Steamboat — ten miles below Savannah, on an oyster-bank, waiting for higher tide, May 13th, 1833.

My Dear E.:

* * * * * * *

We saw some splendid live-oak as ornamental trees on the rice plantations, which extend ten or fifteen miles above Savannah.

One of these plantations was given to General Green, by the State of Georgia, for his Revolutionary services; and there he died. These rice plantations are very profitable, and worth a hundred and fifty dollars per acre, or more. They have dikes and gates around them, so as to let in and off the water, at pleasure; the rice is now two or three inches in height, — some sown in drills and some broadcast. * * * *

This city incurred very heavy expenses in entertaining President Monroe, and sustained, in 1820, a great loss by fire. Business took, during the interruption, a stronger direction to Charleston; and Savannah has, since that, somewhat declined. There is a small, plain, neat monument, in one of its public squares, to Green and Pulaski; but none of the fortifications flung up in the Revolution remain. Fort Wayne, erected on the point of the bluff at the eastern end of the city, — the last near, — is yet tenable. Fort Jackson is four or five miles below, and was called after a citizen of Savannah of that name, I believe, and not after the present president. They have fine well-water at a small depth, and the city is on a bluff thirty or forty feet above the flats near it. The planters opposite were paid by the city, about ten years ago, forty dollars per acre never to overflow their land again; and the yellow fever has been less frequent since, and the bargain proved a very losing one to the proprietors of the land, it is of so little income for any kind of cultivation, except rice. * * *

We found Beaufort the prettiest city, on a small scale, in the South. It is not modern, but has an air of considerable wealth and comfort, and is beautifully situated on the very edge of the water. It is mostly inhabited by rich planters. Formerly, indigo and hemp were cultivated considerably in this State; but cotton and rice have absorbed everything else. * * *

Charleston, May 16th, 1833.

My Dear E.:

* * * * * * *

This city is mostly built of wood, and in a style of half or a whole century old, rather than one of the present day. It was the old seat of the provincial government; and, like Portsmouth, bears the marks of ancient wealth, stateliness, and aristocracy. So does Beaufort, on a still smaller scale, — and even now the rice plantations are so valuable that they confer baronial wealth, and more than baronial power, and that their owners in this region live like nabobs. * * *

We stopped at Mr. Seabrooks', about fifty miles from this, and walked ashore. He has a fine garden, some beautiful hedges, and beautiful fields of sea-island cotton. He and his son have married sisters, and, with about seventy other planters, occupy the whole island, and in the heat of summer collect in a village on the sea-shore, or travel to the north. He is said, some years ago, to have sold from two to three hundred bales of cotton annually, at from fifty to one hundred cents per pound. A bale contains about three hundred and

fifty pounds. There is a sum for Charles to work out. Such is the influence and rank of such planters, that almost every young man here is ambitious to become a planter; and I caused more excitement and conversation than was produced by any other incident, the whole voyage, by taking from my trunk a piece of cotton-bagging made by machinery opposite Cincinnati, and exhibiting it to them, and giving them samples of it. * * *

Then we visited the citadel, which is now garrisoned with State or city troops, and is calculated only to repel musketry and negro tactics, but could be battered down from a vessel in Cooper river in ten minutes. Some miles up this river, the John Adams was built, in 1798; and much fine timber is floated down its current, and sawed up in the city, by a steam-mill and two tide-mills. They are owned by Mr. Bennett, and he supplies not only the neighborhood, but ships to New York, New Bedford, &c., a great many boards for heading, and sometimes for staves to whale-oil barrels.

Some vessels load with lumber here to the West Indies, and some with cotton, rice, &c., to Europe and the north. The steam-mill has four sets of saws, that each cut up a whole log in going through once, and move at the rate of two strokes a second. The tide-mills are found to be most economical. We visited a rice-mill which is moved by steam, and does what, fifty years ago, was done by hands, at a toll of about one-ninth. The rough rice is ground between stones so far apart as to break the hull and not grind the kernel. It is then pounded by lead hammers, so as to jam off the hull without breaking many of the good kernels. But what is jammed off sells for food to cattle and horses. It is then winnowed and packed in barrels by machinery. A barrel here contains five bushels. They have just erected one of these mills at Savannah, and have one opposite Charleston, on the road to Georgetown, S. C. They bring the rough rice to them in boats, sloops, &c., many miles.

* * * * * * *

I have not stated, I believe, that rice-plantations yield about sixty bushels of rough or thirty of clean rice to the acre, which, at sixty pounds per bushel, and at three cents per pound, is fifty-four dollars per acre. The overseers have about four hundred dollars per year, with a house and food for their family; and are improving in quality, making their business more of a permanent profession. They are the jurors, voters, militia, &c., of the sea-coast of the South. * * * * *

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